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BEFORE THE ENVIRONMENTAL APPEALS BOARD
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C.

In re:

Alyeska Pipeline Service Company,
Valdez Marine Terminal

NPDES Permit No. AK-002324-8

Case No.:

ALYESKA PIPELINE SERVICE
COMPANY'S PETITION FOR
REVIEW

I. INTRODUCTION

Alyeska Pipeline Service Company ("Alyeska"), through its undersigned representative, respectfully submits this petition for review of the final National Pollutant Discharge Elimination System ("NPDES") Permit No. AK-002324-8 (the "NPDES Permit," attached to the Declaration of David J. Connor ("Connor Dec." as Exhibit 1) issued on October 30, 2012 by the United States Environmental Protection Agency, Region 10 ("Region 10"). This petition is timely filed within thirty (30) days of service of the NPDES Permit on Alyeska. 40 C.F.R. § 124.19(a).

Certain conditions and effluent limits of the NPDES Permit (discussed below and enumerated in the attached chart) (the "Contested Conditions") are based on one or more findings of fact and/or conclusions of law which are clearly erroneous, involve the exercise of discretion, and implicate an important policy consideration that the Environmental Appeals Board ("EAB") should review. Alyeska identified these Contested Conditions in its comments filed with Region 10 on March 8, 2012. The NPDES Permit retained the contested conditions and Region 10's Response to Comments issued October 30, 2012 ("EPA RTC") did not provide a meaningful review and explanation in response to all significant comments raised by Alyeska,

as required by 40 C.F.R. § 124.17(a)(2). *See In re Wash. Aqueduct Water Supply Sys.*, 11 E.A.D. 565, 585-86 (EAB 2004); *In re City of Port St. Joe & Fla. Coast Paper Co.*, 7 E.A.D. 275, 292, 295-96 (EAB 1997). Therefore, Alyeska respectfully requests the EAB grant review of this petition.

II. BACKGROUND

Alyeska is the operator of the Trans Alaska Pipeline System (“TAPS”) including the Valdez Marine Terminal (“VMT”) located in Valdez, Alaska. Alyeska has been the operator of TAPS since the pipeline and related facilities in Valdez became active in 1977. Connor Dec. at ¶2. The first NPDES permit for the VMT was issued in 1974 and subsequent permits have been in place providing continuous coverage for wastewater discharges for 37 years. *Id.*

Since it began operation, the VMT has included a Ballast Water Treatment Facility (“BWTF”) to treat oily seawater ballast. Vessels arrive at the VMT with a load of seawater used as ballast to stabilize the vessels during their transit. Before the advent of double hull tankers, the seawater ballast was stored in the vessels’ oil cargo tanks, and so needed to be treated to remove oil constituents prior to discharge. The BWTF also treats a variety of wastewater streams from the VMT and the associated tankers and spill prevention and response vessels. All influents to the BWTF are identified and characterized in the EPA-approved Best Management Practices Plan. Connor Dec. at ¶3.

With the advent of double hull tankers, fewer vessels arrive at the VMT with ballast water that has been stored in tanks also used to transport oil, thus reducing the volume of ballast water requiring treatment prior to discharge. Recently, Alyeska renovated the BWTF to accommodate changes in the oil tanker fleet and reduced oil production on the North Slope of Alaska. Connor Dec. at ¶¶4-5. These changes resulted in a more advanced treatment process to address reduced long-term average wastewater flow rates. Connor Dec. at ¶5. The reduced flows are currently in the range of 1.5 - 2.0 million gallons per day (“MGD”) from Outfall 001.¹

¹ In comparison, the average Outfall 001 flow rate in 2004 was 9 MGD and the maximum daily flow was 20.3 MGD.

1 *Id.* Monthly average flows up to 5.54 MGD and maximum daily flow rates as high as 10 MGD
2 may occur as a result of precipitation (stormwater) events. *Id.* Pollutant discharges have been
3 reduced proportionately to flow because the updated treatment system is designed to equal or
4 exceed the performance achieved by the previous treatment system and uncontaminated
5 stormwater has become the predominant influent. *Id.* at ¶¶4-5.

6 During the time Alyeska has operated the BWTF, it has performed and submitted over
7 one hundred comprehensive reports characterizing the effluent chemistry, the receiving water,
8 the sediments, indigenous animal populations, and toxicity. Connor Dec. at ¶9 and Ex. 2 (listing
9 studies). Relying on this information, Alaska Department of Environmental Conservation
10 (“ADEC”), Region 10, and other regulatory agencies have improved and refined permitting
11 procedures to provide effective protection to Port Valdez. The regulatory community has
12 comprehensively reviewed the impacts of the BWTF effluent on Port Valdez, finding no long-
13 term environmental impacts. *Id.* at ¶ 9. The final NPDES permit reflects that flow rates and
14 pollutant loadings have significantly declined and that the BWTF operates with a high degree of
15 regulatory compliance. *See* NPDES Permit at 7; Connor Dec. at ¶9.

16 Nevertheless, the final permit introduces new monitoring requirements and effluent
17 limitations that are not commensurate with long-standing and well understood discharges.
18 NPDES Permit at 15-21. Specifically, there are new requirements for increased frequency of
19 Whole Effluent Toxicity (“WET”) testing and new trigger value limits for accelerated WET
20 testing and a Toxicity Identification Evaluation (“TIE”) that are not consistent with EPA national
21 and regional policy and guidance. *Id.* Because of the certainty provided by decades of notably
22 rigorous monitoring and environmental studies related to VMT discharges, Alyeska believes that
23 the new monitoring conditions and effluent limitations are not justified.

24 EPA’s *Technical Support Document for Water Quality-based Toxics Control* (1991)
25 (“TSD”)² describes the objective of whole effluent toxicity testing as follows:

26 The whole effluent approach to toxics control for the protection of aquatic life
27 involves the use of acute and chronic toxicity tests to measure the toxicity of
28 wastewaters. Whole effluent toxicity is a useful parameter for assessing and

² Relevant portions of the TSD are attached as Exhibit 3 to the Connor Dec.

protecting against impacts upon water quality and designated uses caused by the aggregate toxic effect of the discharge of pollutants. Whole effluent toxicity tests employ the use of standardized, surrogate freshwater or marine (depending upon the mixture of effluent and receiving water) plants, invertebrates, and vertebrates. EPA has published extensive written protocols listing numerous marine and freshwater species for toxicity testing.

TSD at 4 (internal citations omitted). Acute WET tests are designed to protect aquatic life from acute toxicity, typically resulting in death or immobilization with exposure times of 0 to 96 hours. *Id.* Chronic WET tests are designed to protect aquatic life from longer-term exposure to toxicants (e.g., 7 days or more) and include sublethal effects on aquatic organism growth and reproduction. *Id.*

Both the acute and chronic WET tests involve exposing specific aquatic organisms to mixtures of an effluent sample and either synthetic dilution water or ambient receiving water under closely controlled conditions in a toxicology laboratory. *Id.* The survival (acute and chronic tests) and growth and reproduction (chronic tests) are reported based on statistical comparisons to the corresponding test endpoints in a control water sample (either synthetic dilution water or ambient water). *Id.* WET test results generally are reported in toxic units (“TU”). Acute toxic units (“TUa”) are calculated as 100 divided by the lethal concentration of effluent (in percent) to 50% of the test organisms (LC₅₀) in the acute WET test. TSD at 6. Thus, if greater than 50% of the test organisms survive in 100% effluent at the end of the specified exposure time, the sample toxicity is reported as 1.0 TUa. In the chronic WET test, the resulting no observed effects concentration (“NOEC”) or inhibition concentration to 25% of the test organisms (IC₂₅), expressed as percent effluent, is divided into 100. *Id.* A NOEC of 100% effluent (which means that no statistically significant toxicity was shown at this effluent concentration) is reported as 1.0 TUc. *See* EPA RTC 33.³ Thus, for both the acute and chronic WET tests, a result of 1.0 TU indicates that there is no statistically significant toxicity to the test organisms in 100% effluent. *See id.*

EPA relies heavily upon the 1991 TSD to establish WET monitoring requirements in NPDES permits. EPA also has issued various interpretative memoranda and other guidance

³ The relevant portion of EPA’s Response to Comments is Exhibit 4 to the Connor Dec.

documents to assist permit writers to incorporate appropriate and technically sound WET conditions, pursuant to 40 C.F.R. § 122.44(d). This appeal asserts that Region 10 substantially deviated from EPA’s guidance on how WET conditions are to be incorporated into NPDES permits, and in so doing, abused its discretion.

III. ISSUES ON APPEAL

1. Whether Region 10’s decision to impose WET monitoring for acute toxicity is an abuse of discretion, where Alaska’s Water Quality Standards do not incorporate a numerical acute toxicity standard and the monitoring requirements are inconsistent with EPA’s national WET guidance.
2. Whether Region 10’s decision to impose “lower trigger values” for acute and chronic WET toxicity units, exceedance of which requires initiation of accelerated WET monitoring and a TIE, is an abuse of discretion because it is inconsistent with EPA’s guidance for WET monitoring.
3. Whether Region 10’s decision to impose a “lower trigger value” for acute toxicity units is an abuse of discretion where 10 years of acute WET testing has demonstrated no acute toxicity of the effluent.
4. Whether Region 10’s decision to rely on relevant historical data to create a “lower trigger value” for WET testing is an abuse of discretion because it is inconsistent with EPA’s guidance for how historical data is to be used.

IV. ARGUMENT

A. Inclusion in the final permit of acute WET monitoring is unnecessary to protect water quality and is inconsistent with Alaska’s EPA-approved Water Quality Standards and EPA’s national WET policies and guidance.

1. EPA Does Not Have A Legal Basis For Imposing Acute WET Monitoring

NPDES Permit condition I.B.1, Table 2, imposes a requirement for quarterly acute WET monitoring. Conditions I.H.5 – 7 impose further acute toxicity testing requirements. The

1 NPDES Permit imposes no acute toxicity effluent limit. Indeed, the State of Alaska’s Water
2 Quality Standards, while they include a numeric standard governing chronic toxicity to aquatic
3 organisms, do not include a similar standard for acute toxicity. 18 AAC 70.030. Nonetheless,
4 Region 10 claims to derive authority to require monitoring for acute WET, as well as numeric
5 trigger values for more intensive testing, from narrative toxicity standards contained in Alaska’s
6 18 AAC 70.020(b) and 18 AAC 70.240(c) and (d). EPA RTC at 26. These code sections
7 provide no such authority.

8 Section 70.020(b) states that for the protection of marine waters for the growth and
9 propagation of fish, shellfish, other aquatic life, and wildlife, “there may be no concentrations of
10 toxic substances in water . . . that, singly or in combination, cause, or reasonably can be expected
11 to cause, adverse effect on aquatic life.” Since section 70.030 establishes a standard only for
12 chronic toxicity, the reference to concentrations of toxic substances in 70.020(b) should be
13 understood to mean chronic toxicity, not acute toxicity. Moreover, 70.020(b) is a narrative,
14 qualitative standard, which does not provide the basis for a numeric acute toxicity standard.

15 Sections 70.240(c) and (d) provide that mixing zones may not “exceed acute aquatic life
16 criteria at and beyond the boundaries of a smaller initial mixing zone,” and may not “result in an
17 acute or chronic toxic effect in the water column.” These provisions, while applying to acute as
18 well as chronic toxicity, also establish qualitative standards only, and they, too, provide no basis
19 for deriving a numeric acute toxicity standard.

20 EPA acknowledges that, while EPA guidance *recommends* a threshold of 0.3 TUa as an
21 acute water quality criterion, Alaska has not adopted this numeric criterion for acute WET, and
22 there is no acute WET numeric value in Alaska’s water quality standards. EPA RTC at 26. EPA
23 nevertheless asserts – without supporting evidence – that it has historically interpreted the
24 narrative standards in 70.020(b) and 70.240(c) and (d) as equivalent to the 0.3 TUa threshold.
25 EPA RTC at 27. However, the State’s response to comments on its 401 Certification for the
26 NPDES Permit makes clear not only that it has not adopted the 0.3TUa threshold, but also that
27 the 0.3 TUa criterion is not part of any other state regulation or policy, and that any application
28 of that threshold to the NPDES Permit is entirely of EPA’s doing:

1 18 AAC 70.030, which covers WET limits, does not include the adoption of 0.3
2 TUa for acute WET tests as recommended in the *Technical Support Document for*
3 *Water Quality-based Toxics Control, March 1991* nor is the 0.3 TUa criterion in
4 any other DEC regulation or policy. The 0.3 TUa criterion for acute WET was
included by EPA in its draft permit, which is beyond the purview of DEC's
Section 401 Certification.

5 ADEC Response to Comments For Section 401 Certification at 6.⁴

6 EPA's unsupported claim that Alaska's narrative toxicity standards should be interpreted as
7 equivalent to the 0.3 TUa threshold is directly contravened by the State. Having approved
8 Alaska's Water Quality Standards, EPA has no legal authority to re-write them through
9 permitting decisions. Since EPA bases its justification for acute WET monitoring in the NPDES
10 Permit on a legally untenable position, see EPA RTC at 26-27, the acute WET monitoring
11 requirement cannot stand and should be stricken from the NPDES Permit.

12 **2. Imposing Acute WET Monitoring Is Arbitrary and Capricious**

13 Even if it was appropriate for EPA to utilize the 0.3 TUa threshold in evaluating the need
14 for monitoring the the NPDES Permit – and it was not, for the reasons discussed in the preceding
15 section – EPA's decision to impose acute WET monitoring in the NPDES Permit remains
16 arbitrary and capricious. Alaska's Section 401 Certification for the NPDES Permit (the "401
17 Certification")⁵ establishes the critical dilution factor at the edge of the acute mixing zone as 23,
18 meaning the effluent is diluted with the surrounding seawater by a factor of 23 at that point.
19 EPA acknowledges that, applying the 0.3 TUa threshold, this mixing zone and its dilution factor
20 of 23 authorizes an acute toxicity "allocation" of 6.9 TUa. See NPDES Permit condition
21 I.H.8(a).

22 In the 10-years of WET data that Region 10 evaluated while developing the NPDES
23 Permit, the only acute WET test that showed a TUa > 1.0 (the test method endpoint
24 corresponding with no observed toxicity at an effluent concentration of 100%, i.e., no dilution)
25 was a test that had a reported TUa of 1.1 because the effluent sample had to be spiked with brine
26 solution to raise the salinity to a concentration acceptable for marine animal testing. EPA RTC
27 at 33. This spiking of the effluent sample with hypersaline brine meant that the lowest dilution

28 ⁴ ADEC's response to comments on the 401 Certification is Exhibit 5 to the Connor Dec.

⁵ ADEC's 401 Certification for the NPDES Permit is Exhibit 6 to the Connor Dec.

1 of effluent that could be tested was 90% effluent, leading to an acute WET result of 1.1 TUa. *Id.*
2 The historic acute WET testing data of the Outfall 001 effluent demonstrate that the effluent has
3 no reasonable potential to cause or contribute to an exceedance of any numeric or narrative water
4 quality standard.

5 Region 10 states that, despite the consistent absence of acute toxicity in the BWTF
6 effluent, it included acute WET monitoring and toxicity triggers because of Alyeska's
7 modifications to the BWTF, the changes in the influent wastewater characteristics (from
8 predominantly ballast water to primarily facility process water and storm water), and removal of
9 the Subtidal Benthic Organism Study. EPA RTC at 5-6. Region 10 further determined that the
10 acute WET monitoring is necessary to ensure that the provisions of ADEC's mixing zone
11 allocation are met. *Id.* However, as just noted, over the entire period reviewed during the permit
12 renewal process, there was not even a single failure of an acute WET test. Connor Dec. at ¶9.
13 Moreover, the extensive historic studies conducted on BWTF effluent found no evidence of toxic
14 impacts on the receiving environment, even before ballast water treatment volumes were
15 substantially reduced. *See* Connor Dec. Ex. 2. Accordingly, there is no reasonable potential for
16 an excursion above any acute toxicity standard – particularly the acute toxicity "allocation" of
17 6.9 TUa, as EPA itself has acknowledged.

18 Moreover, even without experiencing acute toxicity, Alyeska has already taken
19 additional steps to ensure continued compliance. Alyeska's treatment system was substantially
20 upgraded between 2007 and 2012 and both the pollutant loadings and the effluent flows,
21 including the ballast water, have been reduced by a factor of four or more on average. Connor
22 Dec. at ¶¶5-6. The ballast water has historically been the source of the majority of hydrocarbon
23 pollutants in the BWTF influent but changes in the oil tanker fleet and reductions in the number
24 of ships delivering oily ballast has resulted in less oily ballast water requiring treatment. The
25 current influent sources to the BWTF are composed primarily of uncontaminated stormwater and
26 other process waters that are low in pollutants. Connor Dec. at ¶4. The upgraded design of the
27 BWTF also includes a new, highly effective air stripping treatment process to remove volatile
28 hydrocarbons such as benzene before the wastewater is treated in the Biological Treatment Tank

1 (“BTT”) and discharged To Port Valdez. *Id.* at ¶ 6. The air stripping process reduces the
2 pollutant load on the BTT which will improve the overall system effluent quality. *Id.* Extensive
3 pilot testing of this upgraded system by Alyeska before and during the upgrade, and operational
4 experience since the upgraded system was commissioned in late 2011, have documented that the
5 current effluent quality equals or exceeds the historic effluent quality for all regulated pollutants.
6 *Id.*

7 Because Outfall 001 has never shown any acute toxicity in the ten-year time span of
8 monitoring data that was evaluated by EPA, and because Alyeska has continued to improve its
9 treatment technology, Region 10’s inclusion in the final NPDES permit of acute WET
10 monitoring is not supported or justified by EPA guidance or policies. *See* EPA RTC at 7.

11 In addition to failing to recognize that the VMT has no reasonable potential for an
12 excursion above acute water quality standards, Region 10’s inclusion of acute WET monitoring
13 is inconsistent with the WET testing guidance in the TSD. The TSD recommends the following
14 approach for determining whether acute or chronic WET testing should be required in a permit:

- 15 • EPA recommends that a discharger conduct chronic toxicity testing if the
- 16 dilution of the effluent falls below 100:1 at the edge of the mixing zone.
- 17 • EPA recommends that a discharger conduct acute toxicity testing if the
- 18 dilution of the effluent is greater than 1000:1 at the edge of the mixing zone.
- 19 • EPA recommends that a discharger conduct either acute or chronic toxicity
- 20 testing if the dilution of the effluent falls between 100:1 and 1,000:1 at the
- 21 edge of the mixing zone.

22 TSD at 58.

23 The TSD does not recommend inclusion of both acute and chronic WET monitoring in
24 NPDES permits because it is unnecessary to assure that the WET testing with one or the other
25 type of test is protective of water quality. *Id.* EPA makes these recommendations because the
26 sensitivity of the chronic WET test is such that at dilution factors of 100:1 or less it provides
27 more sensitivity to toxicity than the acute test.⁶ *Id.*

28 ⁶ This is primarily because the chronic WET test evaluates sublethal toxicity (reproduction and growth), which is a much more sensitive toxicity endpoint than survival as measured in the acute WET test. TSD at 58.

1 In 2001, EPA affirmed the dilution guidance it provided in the 1991 TSD.
2 Environmental Protection Agency, *Clarification Regarding Toxicity Reduction and Identification*
3 *Evaluations in the National Pollutant Discharge Elimination System Program* (2001)
4 (“Clarification Regarding Toxicity”).⁷ EPA also stated that regulatory agencies must be careful
5 to select the proper tests and test species, while abiding by each state’s regulation or applicable
6 water quality standards. *Id.* Here, in addition to ignoring TSD guidance, Region 10 failed to
7 take into account Alaska’s decision not to promulgate a numeric standard governing acute
8 toxicity.

9 The effluent dilution achieved by Alyeska’s diffuser at the edge of the chronic mixing
10 zone is 56:1. ADEC Certification at 2. Given this diffusion rate, the TSD guidance to permit
11 writers is to require monitoring using the chronic WET test exclusively. None of the TSD
12 recommendations suggest monitoring for both acute and chronic toxicity with WET tests.
13 Therefore, acute WET testing is inappropriate in this case and EPA abused its discretion by
14 requiring such testing.

15
16 **B. The lower trigger levels for acute and chronic WET, requiring accelerated**
17 **testing and a subsequent TIE, have no technical or regulatory basis and**
18 **represent an unjustified bifurcation of the established toxicity reduction**
evaluation (“TRE”) process.

19 Region 10 has introduced an entirely new regulatory concept in the NPDES Permit by
20 establishing lower trigger values for both acute and chronic WET testing at Outfall 001 that
21 would require Alyeska to perform accelerated WET testing and conduct a TIE if a second sample
22 in the accelerated testing period exceeds the lower trigger values. NPDES Permit conditions
23 I.H.5 & I.H.6. The acute WET lower trigger value, 1.2 TUa, and the chronic WET lower trigger
24 value, 13.5 TUC, are substantially lower than the specified critical effluent dilutions of 23 and 56
25 authorized by the ADEC Certification (Condition 1, Connor Dec. Ex. 6) and used in the NPDES
26 permit in setting the acute and chronic WET accelerated testing and TRE upper trigger values of
27 6.9 TUa and 56 TUC. NPDES Permit condition I.H.8.

28

⁷ EPA’s Clarification Regarding Toxicity is Exhibit 7 to the Connor Dec.

Region 10's two sets of triggers and bifurcation of the TIE and TRE represent a major deviation from EPA guidance for implementing WET testing as set out in the TSD. The TSD and other EPA guidance identify the TIE as the third step in a TRE. TSD at 114-15; Clarification Regarding Toxicity at 1-2; U.S. Environmental Protection Agency, *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants* at 3-5 (1999).⁸ "The purpose of a TRE is to investigate the causes and to identify corrective action for difficult effluent problems." TSD at 114. A TIE is a three phase process used to further the goals of the TRE. *Id.* at 116-17. There is no EPA policy or guidance that recommends separating the TIE from the TRE by establishing lower TIE triggers based on misapplied historical data. EPA guidance does contemplate requiring a TRE in the event a WET effluent limit is exceeded, or some other trigger is exceeded in those situations where no WET effluent limit is contained in a permit, but it does not contemplate a separate, lower trigger for a TIE independent of the TRE process. *See* U.S. Environmental Protection Agency, *Regions 9 & 10 Guidance for Implementing Whole Effluent Toxicity Programs* at 4-1 (1996).⁹

Region 10 abused its discretion by including lower triggers at effluent concentration levels that are a small fraction of the effluent dilutions (which, unlike the upper trigger values, actually indicate a reasonable potential to exceed Alaska's narrative standards for toxicity). The acute and chronic WET test requirements specifying lower trigger values for WET in Alyeska's final NPDES permit represent a notable departure from over 30 years of EPA guidance and policy to control effluent toxicity and have no technical or regulatory basis.

C. The lower trigger level for acute WET is based on a flawed technical analysis of data that actually indicate that the BWTF effluent has never exhibited acute toxicity.

Region 10 has proposed a lower trigger of 1.2 TUa for acute WET testing. NPDES Permit condition I.H.5. This lower trigger value is premised upon an erroneous statistical

⁸ The relevant portions of EPA, *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants* (1999) is Exhibit 8 to the Connor Dec.

⁹ The relevant portion of EPA, *Regions 9 & 10 Guidance for Implementing Whole Effluent Toxicity Test Programs, Interim Final* (1996) is Exhibit 9 to the Connor Dec.

1 analysis of data that actually shows no acute toxicity. As described in the EPA RTC, this limit
2 was developed as follows:

3
4 *The lower acute WET trigger was calculated using 10 years of historical acute*
5 *WET data, and produced a starting value of 1.1 TU_A, the highest reported*
6 *historical value in the data set. The standard deviation for this value is 0.04. To*
7 *build in an appropriate margin of error, EPA added 2 standard deviations, which*
8 *corresponds to a 95% confidence interval and is commonly applied as a margin*
9 *of error. The resulting toxicity trigger based on this calculation is 1.2 TU_A.*

10 EPA RTC at 7.

11 What Region 10 does not state in this description is that the starting value of 1.1 TU_A was
12 derived from a sample that exhibited no acute toxicity to the test animals but rather had an
13 elevated detection limit of 1.1 TU_A. EPA RTC at 33. This is because hypersaline brine had to be
14 added to the sample to comply with the WET test requirements for test salinity. U.S.

15 Environmental Protection Agency, *Methods for Measuring the Acute Toxicity of Effluents and*
16 *Receiving Waters to Freshwater and Marine Organisms* (2002); EPA RTC at 33. The EPA RTC
17 acknowledges this unavoidable sample dilution in the following text:

18 *EPA recognizes the addition of brine solution to effluent samples may preclude*
19 *the use of a 100% effluent sample. EPA has revised the permit to reflect that the*
20 *highest effluent concentration achievable after salinity adjustment will be used as*
21 *a substitute for, and treated as, the 100% effluent concentration.*

22 EPA RTC at 8.

23 If Region 10 had applied this permit provision to the historic database for acute WET
24 testing of Outfall 001 (an appropriate procedure given that the acute WET test methodology
25 requires salinity adjustment of samples if necessary), all of the reported acute WET test results
26 for the 10-year period evaluated by EPA would be 1.0 TU_A. NPDES Permit at 18. Thus, the
27 Outfall 001 acute WET testing database would have a mean concentration of 1.0 TU_A and a
28 standard deviation of zero (0). It is statistically impossible to use this data to establish a lower
threshold value because no sample indicated any toxicity and all TU_A values are identical.
Region 10's calculation therefore should not be used to establish a lower threshold value for

1 accelerated WET testing.

2
3 **D. Historical data does not support the establishment of lower triggers.**

4 Region 10's stated reason for including the lower triggers is to elevate monitoring in the
5 event that toxicity exceeds historic performance. EPA RTC at 7, 9. However, this is not how
6 EPA guidance directs that historic performance should be taken into account. Rather, historic
7 performance data is used in determining whether there exists a reasonable potential to cause or
8 contribute to an excursion above a water quality criterion, requiring an effluent limit. U.S.
9 Environmental Protection Agency, *Regions 9 & 10 Guidance for Implementing Whole Effluent*
10 *Toxicity Programs* at 2-2 (1996). "In determining the need for an effluent limitation, the permit
11 writer must consider existing controls on the other point and nonpoint sources . . . [and] the
12 variability of the pollutant or pollutant parameter in the discharge . . ." *Id.* Historic data
13 provides important information on the variability of a given pollutant, allowing the permit writer
14 to better assess the reasonable potential of an excursion above a criterion. *Id.* Indeed, Region 10
15 guidance encourages the permitting authority to use all available data in making its reasonable
16 potential determination. *Id.* at 2-4. In this case, there was no reasonable potential for an
17 excursion above any water criterion, and "exceeding historic performance" is not an appropriate
18 benchmark for accelerated testing or a TIE, since it does not indicate "unacceptable" effluent
19 toxicity. *See Id.* at 4-1; TSD at 114.

20 The focus of monitoring should be on whether facility performance has changed such that
21 the permitting authority need revisit the reasonable potential analysis. The focus should not be
22 on whether there have been minor deviations from historic performance that have no
23 implications for reasonable potential to exceed Alaska Water Quality Standards. For this reason,
24 the permit's higher trigger levels, which are based on the dilutions authorized by ADEC for acute
25 and chronic mixing zones, achieve EPA's stated monitoring objectives, whereas the lower
26 triggers are superfluous and put Alyeska at risk of having to perform meaningless and expensive
27 monitoring and testing. Given the entire historical environmental record at the BWTF, including
28 25-plus years of environmental monitoring of Port Valdez and hundreds of tests, reports and

1 studies that support the conclusion that no adverse environmental impacts are occurring, the use
2 of two different WET triggers is not supported nor contemplated in any of EPA's guidance and
3 sets an unreasonable precedent that is contrary to EPA policies regarding WET testing.

4 CONCLUSION

5 For the reasons stated herein, including the reduced pollutant loading and an effective and
6 proven treatment system, an authorized mixing zone providing dilutions for both acute and
7 chronic toxicity, an effluent that has been thoroughly characterized over 30 years of monitoring
8 and study, and an unprecedented and complete environmental monitoring history, Alyeska
9 respectfully requests review be granted on its appeal of the Contested Conditions enumerated on
10 the attached chart and acute toxicity monitoring be eliminated, while quarterly chronic toxicity is
11 retained with only the upper trigger value of 56 TUc.

12
13 Dated: November 29, 2012

Respectfully submitted,

MARTEN LAW PLLC

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16 By: 
SVEND BRANDT-ERICHSEN
1191 Second Avenue, Ste. 2200
Seattle, Washington 98110
Email: svendbe@martenlaw.com
Phone: (206) 292-2600
Fax: (206) 292-2601

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20 Attorneys for
Alyeska Pipeline Service Company

Contested Conditions

Part	Term or Provision Appealed	Subject Matter
Part I.B.1, Table 2	Acute WET monitoring	Acute WET testing
Part I.H.5	Acute and chronic toxicity triggers	WET test results
Part I.H.6	Accelerated testing	WET testing
Part I.H.7	Toxicity identification evaluation (TIE)	WET testing and effluent characterization