

**Fact Sheet and Technical Evaluation  
Proposed Modification to Permit No. AK-002324-8  
Alyeska Pipeline Service Company  
Valdez Marine Terminal  
October 14, 2004**

**Background:**

The Region reissued NPDES Permit No. AK-002324-8 (the “permit”) to Alyeska Pipeline Service Company, Valdez Marine Terminal (Alyeska) on June 15, 2004. The permit was for wastewater discharge from Alyeska’s Ballast Water Treatment Facility (BWTF). On July 19, 2004, Alyeska filed a Petition for Review and supporting materials seeking Environmental Appeal Board (EAB) review of the reissued permit. On July 23, 2004, the Region received notification from the EAB that Alyeska had filed the Petition for Review.

Alyeska sought review of the provisions of the permit that require Alyeska to use a specific laboratory method, EPA Method 624, to quantify concentrations of BETX (benzene, ethylbenzene, toluene, and xylene) in the wastewater discharge. The previous permit, issued in 1997, allowed Alyeska to use Method 602 to quantify BETX. Specifically, Alyeska contests the requirement to use Method 624 to measure BETX in the following locations of the permit: Note 1 to Table 1 in Section I.A.2 and Notes 2 and 3 to Table 2 in Section I.A.3.

On August 11, 2004, the Region sent a letter to Alyeska identifying those permit conditions that have been stayed as a result of Alyeska’s petition for review. The remainder of the June 15, 2004 permit’s conditions are uncontested and severable from the contested conditions, and became fully effective and enforceable on September 13, 2004. In the letter the Region stated its intention to withdraw the contested provisions and issue for public comment a draft permit modification which would allow Alyeska to use any method listed in 40 C.F.R Part 136 in monitoring for BETX under this permit. This fact sheet supports the Region’s decision to modify the permit to address the monitoring provisions contested by Alyeska. Other information related to the permit can be found in the previous fact sheet issued with the proposed permit dated April 9, 2003.

**Proposed Modification:**

EPA proposes to allow Alyeska to use any method listed in 40 C.F.R Part 136 in monitoring for BETX under this permit. EPA NPDES permit regulations at 40 C.F.R. 122.44(i) *Monitoring requirements*, require monitoring according to test procedures approved under 40 C.F.R. Part 136 for the analyses of pollutants having approved methods under that part and according to a test procedure specified in the permit for pollutants with no approved methods. Both Method 602 and Method 624 are approved under 40 C.F.R. Part 136 for BETX analysis. EPA proposes to remove the references to require the use of EPA Method 624 to measure BETX found in, Note 1 to Table 1 in Section I.A.2 and Notes 2 and 3 to Table 2 in Section I.A.3., of the permit issued on June 15, 2004. EPA proposes that the notes include a requirement to conduct BETX monitoring in accordance to test procedures approved under 40 C.F.R. Part 136.

## Methods to Quantify BETX and Permit Monitoring Objectives:

The previous 1997 NPDES permit, included provisions authorizing the use of Method 602 for BETX monitoring. The public notice draft of the reissued permit retained the BETX monitoring language from the 1997 permit. A comment received during the public comment period requested EPA to update test methods for hydrocarbon monitoring: "...the BETX and PAH components should be measured by EPA Methods 624 and 625 (based on GC/MS analyses), respectively, rather than the antiquated Methods 602 and 610." In response to this comment, the final permit was revised to require the use of Method 624.

The NPDES permit includes a daily maximum BETX limit of 1.0 mg/l and a monthly average limit of 0.3 mg/l . The primary objective of the monitoring requirements of Table 2 are to determine compliance of the discharge with the effluent limits. The permit requires weekly measurements with a grab-type sample. Two methods are approved under 40 C.F.R. Part 136 to quantify BETX: EPA Method 602 and 624. Both methods are gas chromatographic methods that employ purge and trap for sample introduction. EPA Method 602 uses a photoionization detector (PID) to detect and quantify target analytes. EPA Method 624 uses a mass spectrometer detector (MSD) for analyte detection. The following are the published method detection limits for each method:

	Method 602	Method 624
Benzene	0.2 µg/l	4.4µg/l
Ethylbenzene	0.2 µg/l	7.2 µg/l
Toluene	0.2 µg/l	6.0 µg/l
Xylene	—	—

Newer MSD instruments used in Method 624 can measure lower concentrations than specified in the published method. Nevertheless, either method is sufficiently sensitive and achieve detection limits well below the effluent limits so that compliance with permit limits can be determined. EPA agrees with the statement in Alyeska's petition that Method 602 is particularly sensitive to aromatic hydrocarbons and is well suited to monitor BTEX under this permit. Method 624 is routinely used to identify specific compounds in a complex matrix. Either method approved under Part 136 would meet the objective to determine compliance with the permit limitations.

Another monitoring objective of the permit is to ensure compliance with Alaska Water Quality Standards. The State of Alaska's Water Quality Standards expressly allow the use of Method 602 or Method 624 to quantify BETX (see 18 AAC 70.020(b), Note 7). EPA has consulted with the Alaska Department of Environmental Conservation (DEC) on the proposed permit modification and DEC has provided a draft CWA Section 401 certification that this modification will meet state water quality standards.

Alyeska also contends in its petition for review that the use of EPA Method 624 would require Alyeska's lab to incur significant initial cost to upgrade equipment and increased annual operating costs. Alternatively, Alyeska could send the samples to an outside lab also at additional costs and also raising other potential technical problems associated with shipping samples out of Valdez, Alaska. Although EPA does not agree with the amount of additional cost

cited in the petition, EPA does agree that significant costs would be incurred and that sending frequent samples to an outside lab presents technical challenges. Given the lack of a monitoring benefit of specifying one method over the other for BETX compliance purposes, the additional costs are relevant to the decision to modify the permit.

**Conclusion:**

Both Method 602 and Method 624 are approved under 40 C.F.R. Part 136 for BETX analysis. Authorizing the use of Method 602 for BTEX analysis under this permit would: satisfy the objective of the permit for determining compliance with the effluent limitations; satisfy the objective of demonstrating compliance with state water quality standards; comply with monitoring requirements of the state water quality standards; and allow Alyeska to cost-effectively satisfy its BETX monitoring obligations. EPA proposes to modify the permit to require Alyeska to use any approved method under 40 C.F.R. Part 136 for BETX analysis, which includes either Method 602 or Method 624.

