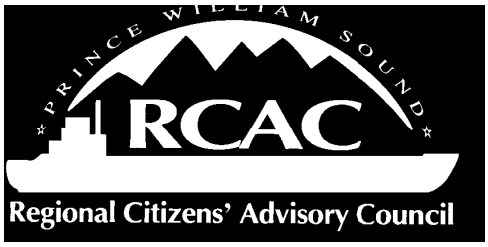

Analysis of the September 24, 2002, March 13, 2002, October 7, 1997 Alyeska Air Quality Permit Amendment Applications For the Valdez Marine Terminal

Submitted
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Executive Summary

Prince William Sound Regional Citizens' Advisory Council (PWSRCAC) developed this document to analyze Alyeska Pipeline Service Company's (Alyeska's) air quality permit amendment applications for the Valdez Marine Terminal (VMT). As part of its mission to promote the environmentally safe operation of the Valdez Marine Terminal and associated tankers, PWSRCAC has reviewed these amendment requests to determine whether they are consistent with state and federal regulatory requirements.

The VMT is currently regulated under two separate air quality permits. Air Quality Permit No. 9671-AA001 covers the entire VMT facility with the exception of two air emission sources, the tank bottom processing system and soil vapor extraction system, which are covered in Air Quality Permit No. 0071-AC005. Combined, Alyeska's amendment requests seek to delete or substantially modify 29 permit requirements.

Alyeska has submitted three applications to amend their existing air quality permits. Alyeska is seeking amendments to the permit conditions prior to converting these permit requirements into a single, new Title V Air Quality Operating Permit. When approved in final form, the Title V Air Quality Operating Permit for the VMT will combine the requirements of both existing VMT air permits (Air Quality Permit No. 9671-AA001and Air Quality Permit No. 0071-AC005).

The Title V permit, when issued, will require that each permit requirement has a clear regulatory basis and that all emission monitoring conditions require continuous compliance with all enforceable air quality standards. Before implementing the new consolidated Title V permit, ADEC and EPA have provided operators with the opportunity to conduct "permit hygiene" on their existing air quality permits. The purpose of permit hygiene is to streamline the final Title V permit by removing or amending permit conditions that are obsolete, extraneous, environmentally insignificant, or otherwise not required as part of a state or federally enforceable air emission regulation.

The VMT Title V permitting action is significant since it will result in a very detailed air quality control permit, which will be valid for a 5-year period. PWSRCAC's oversight of both the VMT Title V permit application and the permit hygiene process ensures that important federal and state air quality control requirements are preserved and documented in the final permit, and that monitoring and record keeping requirements are in place to ensure protection of the Valdez air shed.

Amendments to Air Quality Permit No. 9671-AA001

As proposed, Alyeska's amendments to Air Quality Permit No. 9671-AA001 request deletion or modification of 12 of the 32 permit conditions and modification of three of the four exhibits that are included in the permit. The proposed amendments seek to remove specific emission limits, emission monitoring requirements, and administrative requirements.

PWSRCAC has focused its review and recommendations on proposed amendments that have a potential emission impact. A detailed analysis for each Air Quality Permit No. 9671-AA001 recommendation is provided in Table 1 of the paper and the subsequent text.

PWSRCAC recommends that the following requirements be retained in the final Title V permit to ensure compliance with the permit standards:

- Condition 3, good air pollution control practice standards;
- Condition 11, goals and intent for collection and handling of storage tank emissions;
- Condition 13, requirement to implement and maintain a Best Operational Management plan for crude oil storage tank emission control;
- Conditions 14, 15, and 27, tanker opacity standards;
- Condition 23, and Exhibit B's boiler opacity standards;
- Condition 25 fuel sulfur monitoring requirements, which are necessary to ensure compliance with the state sulfur dioxide standards;
- Exhibit B's 10% waste gas incinerators opacity standard;
- Exhibit B's solid waste incinerator, generator, and pump driver operating hour limits;
- Exhibit B's fuel limit for the power boilers; and
- Exhibit C's, fuel monitoring requirements for the boiler and waste gas incinerators.

Amendments to Air Quality Permit No. 0071-AC005

As proposed, Alyeska's amendments to Air Quality Permit No. 0071-AC005 request deletion or modification of 14 of the 37 permit conditions. These amendments seek to remove specific emission limits, emission monitoring requirements, and administrative requirements.

PWSRCAC has focused its review and recommendations on proposed amendments that have a potential emission impact. A detailed analysis for each Air Quality Permit No. 0071-AC-005 recommendation is provided in Table 2 of the paper and subsequent text. PWSRCAC recommends that the following requirements be retained in the final Title V permit to ensure compliance with the permit standards:

- Condition 17, the Tank Bottoms Processing (TBP) system equipment inventory;
- Condition 19, Standard Operating Procedures (SOP) for the TBP system and the Soil Vapor Extraction (SVE) system;
- Condition 20, Standard Operating Procedures for control of VOCs at the TBP system and the SVE system;
- Condition 23, operating hour restrictions for the TBP system;
- Condition 25, internal combustion engine catalytic converter control requirements and the TBP system leak detection program;

- Conditions 26, TBP system process monitoring;
- Conditions 27.1 and 27.2, for SVE system process monitoring; and
- Conditions 34 and 36.2, H_2S test for TBP vapors used as fuels.

ADEC plans to consolidate and simultaneously evaluate the proposed amendment applications along with the VMT Title V Operating Permit application, and PWSRCAC supports this plan. Simultaneous review and a joint public notice and comment period on these combined applications eases the administrative burden on the agency, industry, and the public. This consolidated review process also ensures that any amendments to the existing VMT air permits only take effect upon issuance of the Title V Operating Permit. Since many of the recommended changes rely on standard conditions, stipulations, and requirements contained in a Title V Operating Permit, this will preserve the integrity of the VMT permits until the Title V permit is in place.

To date, ADEC has not acted on any of the Alyeska amendment applications. ADEC management has indicated that the Department's review will begin in December 2002, with a public review and comment period in early 2003. PWSRCAC's analysis provides ADEC with a technical reference document for consideration during the Department's decision-making process and will provide the basis for PWSRCAC's formal comments, which will be submitted during the public review and comment period.

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Introduction

This document analyzes three air quality permit amendment applications submitted by Alyeska Pipeline Service Company (Alyeska) to the Alaska Department of Environmental Conservation (ADEC), for the Valdez Marine Terminal (VMT). Prince William Sound Regional Citizens' Advisory Council (PWSRCAC) has developed recommendations regarding each of these proposed amendments, based on their consistency with state and federal regulatory requirements.

The air quality permit amendment requests under review are contained in three separate applications.[1] Alyeska has requested ADEC to amend both of their existing air quality permits prior to the issuance of a Title V Air Quality Operating Permit for the VMT facility. The Title V Air Quality Operating Permit Program combines all the existing air quality permit requirements for a facility into a single, comprehensive operating permit that covers all aspects of a facility's air pollution activities. When issued, the Title V Operating Permit will supercede both of the existing VMT air quality permits. The Title V permit will also ensure that each permit requirement has a clear regulatory basis and that emission monitoring requirements are imposed to ensure continuous compliance with the enforceable standards.

Before acting on the Title V permit application, ADEC and the US Environmental Protection Agency (EPA) have provided operators with the opportunity to request "permit hygiene" amendments to their existing air quality permits. The permit hygiene process will result in the removal or amendment of permit conditions that are obsolete, extraneous, environmentally insignificant, or otherwise not required as part of a state or federally enforceable air emission regulation, prior to including them in the final Title V Operating Permit. Since the Clean Air Act (CAA) requires all existing air quality permit requirements to be included in the Title V Operating Permit, many operators have sought amendments to their existing air quality permits in an effort to eliminate redundant, confusing, and obsolete information and to minimize the ultimate Title V monitoring and reporting requirements for a facility.

In 1997, Alyeska applied for a Title V Operating Permit for the VMT. This application is currently pending with ADEC. In 1997, Alyeska also submitted an application to amend the existing VMT air quality permit to eliminate several permit conditions prior to their inclusion in the VMT Title V Operating Permit. More recently, in 2002, Alyeska expanded its list of proposed amendments to the existing VMT air quality permits by submitting two additional amendment applications. To date, ADEC has not acted on any of the Alyeska amendment applications. ADEC management has indicated that the Department's review will begin in December 2002, with a public review and comment period in early 2003.

[1] Alyeska Letter No. 02-19083 (September 24, 2002) sent to the Alaska Department of Environmental Conservation (ADEC) entitled: "Request for Revision or Revocation of Permit Terms: Valdez Marine Terminal, Former 18 AAC 50.400 Permit Nos. 9671-AA001 and 0071-AC005;" Alyeska Letter No. 02-18309 (March 13, 2002) sent to the Alaska Department of Environmental Conservation (ADEC) entitled: "Request for Revision or Revocation of Permit Terms: Valdez Marine Terminal, Former 18 AAC 50.400 Permit Nos. 9671-AA001;" and Alyeska Letter No. 97-12276 (October 7, 1997) sent to the Alaska Department of Environmental Conservation (ADEC) entitled: "TAPS Valdez Marine Terminal Air Quality Control Permit to Operate No 9671-AA001; Concurrent 18 AAC 50.305(a)(3), Application with Operating Permit Application."

Background

Additional background is provided on the New Source Review (NSR) pre-construction permitting program, the Title V Operating Permit program, and the permit hygiene process to assist the reader in understanding the complex air permitting rules and requirements that are applicable to the Valdez Marine Terminal, as referenced throughout this document.

Valdez Marine Terminal Air Emission Sources

This paper assumes that the reader is familiar with the Valdez Marine Terminal and its air emission sources. For those readers needing additional technical background on VMT air emissions sources and air emission issues of concern at the VMT, please refer to the May 7, 2002 PWSRCAC paper entitled "Valdez Marine Terminal Air Quality Oversight Project Phase I."[2]

New Source Review Pre-construction Permitting Program

New Source Review (NSR) is EPA's term for the permit review process required for a new, major air emission source to obtain an initial permit to operate. NSR permits can also be amended to add air emission sources at a permitted facility. NSR permits are commonly referred to as "pre-construction permits."

EPA established the NSR permitting program to ensure that major stationary sources of air pollution, and major modifications to those sources, obtain an air pollution permit before commencing construction to control the amount of criteria air pollutants emitted from their facility. Specific New Source Performance Standards (NSPS) were also established for specific source categories (e.g. incinerators, storage vessels, etc.) to control criteria air pollutants.

The NSR program is comprised of two types of permits: (1) "attainment areas," for areas with air pollution levels in compliance with the National Ambient Air Quality Standards (NAAQS), and (2) "nonattainment areas," for areas with air pollution levels not in compliance with the National Ambient Air Quality Standards.

EPA currently lists the Valdez air shed as an "attainment area." NSR permits for sources in attainment areas are referred to as Prevention of Significant Deterioration (PSD) permits, however the terms "NSR permits," "PSD permits," "pre-construction permits," and "construction permits" are all used interchangeably to describe an air quality permit that is required prior to constructing a major air emission source.

The goal of the PSD program is to prevent any further significant deterioration of the effected air shed, within allowable limits set by EPA. Since the VMT is considered a major stationary source of air pollution, it was required to obtain a PSD air permit in 1995 when Alyeska modified the facility to include the marine vessel vapor recovery system.

[2] PWS RCAC Contract No: 500.02.1, prepared for the PWSRCAC by Environmental Solutions.

The VMT currently operates under two air quality control permits. One PSD permit includes all VMT air emission sources as of 1996.[3] A second permit was issued in 2000 to allow for the installation of a new tank bottom processing system and a soil vapor extraction system.[4]

Title V Operating Permit Program

The Clean Air Act was amended in 1990, and Title V was one of the significant amendments. Title V was not intended by Congress to be the source of new substantive requirements. Rather, operating permits required by Title V are meant to accomplish the largely procedural tasks of identifying and recording existing substantive requirements applicable to regulated sources, and to assure compliance with those existing requirements.

In developing regulations for Title V,[5] EPA addressed the fact that many facilities had been issued multiple construction permits and were required to comply with other state and federal air pollution obligations that were scattered throughout numerous hard-to-find provisions of state and federal regulations.[6] The Title V permit program consolidates all of a facility's air pollution requirements in one streamlined permit document. All existing air permits previously issued to a facility serve as the starting basis for the requirements of the Title V permit, but these permits are eventually superceded by the final Title V permit. Other applicable state and federal requirements, as defined by 40 CFR 70.2, are also included in the Title V permit.

In addition to streamlining the permitting process, Title V also improved EPA's ability to enforce the Clean Air Act. Under the Title V regulations, EPA determined that many air quality permits lacked sufficient periodic monitoring requirements to reasonably assure compliance with applicable emission limitations or standards. [7] For each applicable air quality requirement listed in the consolidated Title V Operating Permit, EPA requires a clear corresponding monitoring requirement that is adequate to assure compliance with that specific requirement. Where an existing permit lacks appropriate monitoring requirements, supplemental monitoring requirements can be added to assure compliance; this is the only area in which Title V is authorized to be the source of new substantive requirements. Title V also specifies reporting and record keeping requirements, which identify and document periods of compliance and non-compliance.

Although the Title V permitting program cannot create, delete or modify important air permit requirements that were previously imposed by the PSD permitting program, the Title V permit can include additional testing, monitoring, and reporting requirements to ensure continuous compliance with the enforceable permit requirements originally imposed in the

[3] Air Quality Control Permit to Operate No. 9671-AA001.

[4] Air Quality Control Permit to Operate No. 0071-AC005.

[5] EPA published a final regulation for implementing the State Operating Permits Program, found in Title 40 Code of Federal Regulations (CFR) Part 70, in July 1992. Title 40 CFR Part 70 details the minimum requirements that must be met by State operating permit programs. The EPA also promulgated Title 40 CFR Part 71, Federal Operating Permits Program, on 1 July 1996, for States that do not have an EPA-approved program under Part 70.

[6] Other "Applicable Requirements" that may be contained in state and federal regulation, but are not neatly documented in the exiting facility air permit, are well defined in the EPA Title V Regulations at 40 CFR 70.2.

[7] For example, there may be a sulfur oxide limit imposed in the PSD Pre-construction permit, but no monitoring or record keeping requirements to ensure that that sulfur oxide limit is not violated. Title V, in this case, may add a monitoring requirement to test the fuel sulfur content, and a recordkeeping requirement to record that fuel sulfur data; this way a company can calculate the sulfur oxide emissions on a real time basis and ensure that facility remains in compliance with the sulfur oxide limits.

PSD Permit. Thus, to minimize the magnitude and cost of the Title V Operating Permit program, each permitted facility is motivated to reduce, clarify, and streamline the number of enforceable permit requirements in their existing air quality operating permits. Since all enforceable requirements of a PSD permit must be included in the Title V Operating Permit, many operators have sought amendments to their original PSD permits in an effort to minimize the ultimate Title V monitoring and reporting requirements for a facility.

Air Permit Hygiene Prior to Title V

Prior to obtaining a Title V Operating Permit, a facility owner/operator has the opportunity to perform "permit hygiene" by amending the existing air quality permits for their facility to eliminate permit conditions that are obsolete, extraneous, environmentally insignificant, or otherwise not required as part of a state or federally enforceable air emission regulation.

In Alaska, the ADEC Air Permitting Program is organized into two separate programs that administer air permits: the Construction Permitting Program and the Operating Permit Program. The ADEC Construction Permit Program administers the New Source Review PSD Pre-construction permits. The ADEC Operating Permit Program administers the Title V Operating Permit Program.

Permit hygiene involves a two-step process. First, a facility owner/operator must submit a permit hygiene amendment request to the ADEC Construction Permit Program for review and approval, since that program originally established the terms and conditions of the facility permit and is most familiar with the basis for the requirements. Second, the amended air permit is then used as a basis for preparing the Title V permit application. The Title V permit application would then be submitted to the ADEC Operating Permit Program for review and approval. [8]

This two-step process requires two separate public notice and comment periods. Alternatively, EPA has approved the use of "streamlined" procedures for development of Title V applications and the associated permit hygiene process. These streamlined procedures allow ADEC to determine appropriate amendments to the existing construction permits, while simultaneously developing the Title V permit. This streamlined, one-step process, does not require a separate public notice and comment period for amendment of the construction permit and issuance of an amended construction permit. Rather, it uses a single public notice and comment period to consider all pending amendment applications and the issuance of a Title V Operating Permit incorporating the amendments. In this streamlined process, ADEC's Operating Permit Program takes the lead in developing the Title V Operating Permit; however, the ADEC Construction Permit Program staff play an important technical and regulatory consulting role to ensure that important construction permit terms are retained in the final Title V permit.

The permit hygiene process has been subject to a great deal of agency review, debate and interpretation, prompting EPA to issue a guidance document[9] which specifically addresses streamlined development of Title V applications and the associated permit hygiene process.

[8] In Alyeska's case, a Title V Operating Permit Application was submitted to ADEC in 1997. To date, ADEC has not started the review of this 1997 permit application. Any construction permit amendments that are approved as a result of Alyeska's permit hygiene requests will require Alyeska to submit an updated Title V Operating Permit Application to correspond to the approved amendments.

[9] EPA, White Paper for Streamlined Development of Part 70 Permit Applications, July 10, 1995.

In the permit hygiene guidance, EPA recognizes the importance of permit hygiene in removing or amending permit conditions that are obsolete, extraneous, environmentally insignificant, or otherwise not required as part of a state or federally enforceable air emission regulation prior to the Title V permitting action. However, EPA advises due caution to permitting authorities (such as ADEC) when revising or deleting New Source Review (NSR) permit requirements as a part of the Title V permitting process. Both EPA and the courts have found that NSR requirements are federally enforceable, and they should only be deleted based on very compelling technical and legal grounds. In the case of the VMT facility, the NSR requirements are contained in the two VMT PSD Air Quality Permits to Operate.[10]

Valdez Marine Terminal Air Quality Permits

This section provides background for the reader on the VMT air permits, including: the status of the VMT air permits, a summary of the proposed amendments, and a detailed analysis of the proposed amendments.

Current VMT Air Permit Status

Because the VMT is considered a major source of air pollution, Alyeska is required to obtain an air quality permit to operate. Alyeska is also required to submit air quality permit amendments for any significant additions or modifications to the facility. A PSD permit must be obtained whenever a new source is "constructed" at a facility that meets EPA's criteria as a major source of air emissions.

Since the VMT was constructed in 1975-1976 timeframe, there have historically been a number of air quality permits issued by EPA and ADEC; however, the VMT currently operates under two air quality control permits that were issued under the EPA New Source Review (NSR), Prevention of Significant Deterioration (PSD) Program. These two permits are the only air quality permits for the VMT and supercede all other previously issued air permits.

1. In 1995, the construction of the Tanker Vapor Recovery system triggered the requirement for a complete PSD review of all air emission sources at the VMT. [11] The resulting permit, Air Quality Control Permit to Operate No. 9671-AA001, superceded all previous air quality permits issued to the VMT. This permit is commonly referred to as the 1996 VMT PSD Permit.[12]

[10] Air Quality Permit No. 9671-AA001and Air Quality Permit No. 0071-AC005.

[11] EPA issued a National Emissions Standards for Hazardous Air Pollutants (NESHAP), 40 CFR 63, Subpart Y to reduce hazardous air emissions from Marine Tank Vessel Loading facilities throughout the U.S. This NESHAP required installation of the VMT Tanker Vapor Recovery Project. Alyeska was required to collect and combust all terminal vapors associated with the vapor recovery system in the boilers and incinerators. While significantly reducing the amount of hazardous air emissions emitted from the VMT, it substantially increased the amount of criteria air pollutants (e.g. NO_x, SO_x, CO) by increasing the amount of vapors combusted at the facility. EPA and ADEC required Alyeska to complete a full technical analysis of the VMT facility, to ensure that national ambient air quality standards would not be violated by this significant change in the facility, and that Best Available Control Technology (BACT) was installed as necessary.

[12] Alyeska submitted a Prevention of Significant Deterioration (PSD) Permit, which was reviewed and approved by ADEC and EPA. This permit was originally issued in 1995 and was subsequently amended in 1996. The 1996 permit combines and supercedes all previous permits that have been issued to the VMT.

2. In 2000, the installation of a new tank bottom processing system and a soil vapor extraction system triggered the requirement for a PSD review of these new VMT air emission sources. Alyeska avoided a full PSD review (PSD avoidance) by voluntarily imposing operating limitations on these two emission sources to remain under the PSD amendment significance threshold. Rather than combining these new sources in the existing Air Quality Control Permit to Operate No. 9671-AA001 and updating that permit, ADEC chose to issue a separate, additional permit (Air Quality Control Permit to Operate No. 0071-AC005) which only includes these new sources.

ADEC is currently in the process of replacing all existing air permits in Alaska with new updated Title V Air Quality Operating Permits for each facility.[13] A Title V Operating Permit has not yet been approved by ADEC for the VMT; however, Alyeska has submitted a Title V application.[14] When approved by ADEC, the Title V Air Quality Operating Permit Program will combine the requirements of Air Quality Permit No. 9671-AA001 and Air Quality Permit No. 0071-AC005 into one operating permit. The Title V permit will then supercede all air quality permits at the VMT.

Conversion of all existing VMT air quality permits to a single Title V permit will provide the following benefits to the PWSRCAC and the community of Valdez:

- All VMT air pollution control requirements will now be recorded in one place. This gives members of the public, regulators, and the facility owners a clear picture of what the facility is required to do to keep its air pollution under the legal limits.
- The VMT will be required to make regular reports on how it is tracking its pollution emissions and the type of controls it is using to limit its emissions. These reports are public information.
- Monitoring, testing, and record keeping requirements will be added to the VMT permit to assure that it complies with its emission limits or other pollution control requirements.
- The VMT will be required to certify each year whether or not it has met the air pollution requirements in its Title V permit. These certifications are public information.

[13] In 1996, in compliance with Title V Operating Permit Program of the Clean Air Act (CAA) Amendments of 1990 and Alaska Statute (AS) 46.14, the State of Alaska developed substantial revisions to its air quality Construction Permit and Operating Permit Program Regulations. On December 5, 1996, the Environmental Protection Agency (EPA) approved the State of Alaska Operating Permits Program under 18 AAC 50 (Federal Register, December 5, 1996, (61 FR 64463). All existing regulated facilities in the State of Alaska were required to submit a revised air quality operating permit on, or before, December 6, 1997.

[14] On October 7, 1997, Alyeska submitted an initial Title V Operating Permit application for the VMT. On November 3, 1997, the Alaska Department of Environmental Conservation (ADEC) determined that the October 7, 1997, VMT application was complete. ADEC is required by law AS 46.14.170(a)(2) to issue or deny an operating permit within 12 months after receipt of the complete application by the Department. Thus, a VMT air quality operating permit approval should have been issued on or before November 3, 1998. However, the Alaska Title V statutes also recognized the difficulty that ADEC would have in reviewing and approving all the revised operating permits within one year. The statutes at AS 46.14.170(b) provide a contingency for approving permits on a phased schedule. The VMT Title V permit application is still pending ADEC review and is expected to be processed in 2003.

Proposed Amendments to the Existing VMT Air Permits

Alyeska's 1997 Title V permit application is currently pending with ADEC, and Alyeska has indicated that they plan to submit a revised Title V application in December 2002.[15] In the meantime, Alyeska has submitted three permit amendment applications in an attempt to complete a permit hygiene exercise on the existing permits. Alyeska submitted the proposed amendments in three separate permit amendment applications:

1. In October 1997,[16] Alyeska requested amendments to the 1996 permit to remove boiler fuel limits, operational and particulate matter limits on incinerators, and modifications to some reporting requirements.

2. In a March 13, 2002 application,[17] Alyeska sought an amendment to the 1996 permit to remove tanker opacity[18] and sulfur monitoring requirements.

1. More recently, in a September 24, 2002 application,[19] Alyeska sought to eliminate "good air pollution control practice" requirements, and storage tank vapor control and reporting requirements.

Specifically, Alyeska's amendments request that ADEC delete or modify 12 of 32 permit conditions and 3 of 4 Exhibits in Air Quality Permit No. 9671-AA001, and 14 of 37 permit conditions in Air Quality Permit No. 0071-AC005. These amendments seek to remove emission limits, emission monitoring requirements, and administrative requirements.

Analysis of Proposed Amendments

The remainder of this document analyzes each air permit amendment proposed by Alyeska. Tables 1 and 2 summarize PWSRCAC's recommendations regarding Alyeska's amendment requests for the VMT air quality permits. The table categorizes each amendment as either an "administrative" amendment, or an amendment that has a "potential emission impact." PWSRCAC's comments and analysis are concerned with amendments that may result in a potential emission impact to the Valdez air shed; PWSRCAC has made specific recommendations on these issues. The administrative amendments do not result in a potential

[15] Alyeska has also indicated that it plans to update and resubmit the VMT Title V application in December 2002. Alyeska would like to update the application due to the fact that the application is now approximately five years old and several changes have been made to state regulations and Alyeska operating procedures during the last five years. Alyeska also plans to incorporate all of their proposed amendments in the revised Title V application. Personal communication between Environmental Solutions, and Brad Thomas of Alyeska, November 11, 2002.

[16] Alyeska Pipeline Service Company Application to ADEC for a Request to Revise and/or Rescind Permit Conditions Issued Under Permit No. 9671-AA001, October 7, 1997

[17] Alyeska air quality permit application to ADEC "Request for Revision or Revocation of Permit Terms: Valdez Marine Terminal, Former 18 AAC 50.400 Permit No. 9671-AA001", March 13, 2002.

[18] Tanker opacity refers to the degree to which emissions emitted from the tanker vessel smoke stacks are impervious to the rays of light. 100% opacity equates to dark black smoke. 0% opacity equates to no visible emissions.

[19] Alyeska air quality permit application to ADEC "Request for Revision or Revocation of Permit Terms: Valdez Marine Terminal, Former 18 AAC 50.400 Permit No. 9671-AA001", September 24, 2002.

emission impact, and are not major concerns for PWSRCAC, but are listed to provide a complete analysis. A detailed analysis of each amendment request follows these tables.

The discussion for each amendment consists of four parts. First, Alyeska's amendment request and basis for the request is presented. Next, the current permit language for that section of the permit is provided for reference. Third, an analysis of the proposed amendment is provided. Finally, a recommendation is made as to whether or not to the proposed amendment is supported by regulation. All text that is quoted from other sources (e.g. Alyeska amendment requests, current permit language, regulations, etc.) is presented in italics.

Table 1: AQC Permit to Operate No. 9671-AA001
Summary of Amendments and PWSRCAC Recommendations
Regarding Proposed Amendments

Condition No.	Alyeska Request	Scope	PWSRCAC Recommendation
3	Delete	Generic "good air pollution control practice" standards for VMT emission sources.	**Retain due to potential emission impact** Several emission sources are grandfathered and have little or no emission control standards other than the general "good air pollution control practice" standards of Condition 3 (e.g. BWTF and tank vents). This standard should be retained until more specific emission control standards are adopted or applied for these sources. **Administrative** Marine Vessel Loading Rule (Subpart Y) already requires "good air pollution control practice" standards for VMT Vapor Recovery Equipment. This condition could be streamlined to only cover the non-Subpart Y affected sources.
10	Delete	Excess emission and tank inspection reporting for tanks	**Administrative** This condition could be streamlined with the updated excess emission reporting requirements.
11	Modify	Collection and combustion of all storage tank vapors	**Retain due to potential emission impact** This amendment seeks to remove two key phrases that require Alyeska to collect and combust tank vapors to the "maximum extent possible" to "minimize emissions of vapors to the atmosphere." This is one of the few conditions required for storage tank emission control.
12	Delete	Excess emission reporting for tanks	**Delete, since potential for emission reduction** Alyeska voluntarily agrees to remove the 850 minute venting allowance, previously granted by ADEC. They will strive for zero venting and will report and exceedances.

Table 1: AQC Permit to Operate No. 9671-AA001
Summary of Amendments and PWSRCAC Recommendations
Regarding Proposed Amendments

Condition No.	Alyeska Request	Scope	PWSRCAC Recommendation
13	Delete	Implementation of a 'Best Operational Management Plan' for crude oil storage tank emission control.	**Retain due to potential emission impact** This is one of the few conditions required for storage tank emissions control. Alyeska argues that they have updated procedures to control emissions from venting and leaks; however, they propose to delete this condition rather than to update the plan to include these new procedures. Removing this condition may result in an emissions impact, as there would be no specific standards for control of emissions from tank vents. This recommendation is consistent with PWSRCAC's comments on the OLD NESHAP, Subpart EEEE for control of hazardous air emissions from tanks.
14	Delete	Cease VMT loading or unloading operations when tanker visible emissions exceed permitted levels	**Retain due to potential emissions impact** This condition is necessary to ensure compliance with the state opacity standards.
15	Delete	Monitor the visible emissions of vessels berthed at the VMT	**Retain due to potential emissions impact** This condition is necessary to ensure compliance with the state opacity standards.
16	Delete	An incinerator test required to be performed in 1998.	**Administrative** The incinerator test required by Condition 16 was completed in 1998. This condition could be streamlined to eliminate an obsolete testing requirement.
23	Delete	Boiler opacity limits	**Retain due to potential emissions impact** Condition 23 is a source specific NSR requirement to ensure compliance with the state opacity standards.
25	Delete	Perform a sulfur-content analysis on the fuel being used by a berthed vessel	**Retain or provide further information due to potential emissions impact** Condition 25 should remain in place until Alyeska provides updated ambient air quality modeling results to demonstrate that the worst-case fuel sulfur used by any tanker in the PWS tanker fleet will not result in a NAAQS violation. This analysis should also technically support the use of higher sulfur fuel, as an environmentally appropriate alternative to meeting the fuel monitoring requirements of Condition 25.

Table 1: AQC Permit to Operate No. 9671-AA001
Summary of Amendments and PWSRCAC Recommendations
Regarding Proposed Amendments

Condition No.	Alyeska Request	Scope	PWSRCAC Recommendation
26	Delete	Excess emission reporting	**Administrative** This condition could be streamlined with the updated excess emission reporting requirements.
27	Delete	Notify ADEC whenever an opacity violation by a berthed vessel occurs	**Administrative** Condition 27 is the reporting requirement associated with Conditions 14 and 15, and is necessary to ensure compliance with state opacity standards.
Exhibit B	Delete	Storage tank venting allowance	**Delete, since potential for emission reduction** Alyeska voluntarily agrees to remove the 850 minute venting allowance, previously granted by ADEC. They will strive for zero venting and will report and exceedances.
Exhibit B	Delete	Solid waste incinerator, generator, and pump driver operating hour limits	**Retain or provide further information due to potential emissions impact** Retain the operating hour limits until an updated air quality model analysis is submitted to demonstrate that compliance with the NAAQS can be achieved with higher emission levels. **Alyeska has indicated a desire to retract this amendment request.*
Exhibit B	Delete	Fuel limit for the power boilers	**Retain or provide further information due to potential emissions impact** Retain the gal/hr fuel limit for the power boilers to ensure compliance with short-term emission limits. Potentially update the gal/hr limit with a more accurate fuel heating value. **Alyeska has indicated a desire to retract this amendment request.*
Exhibit B	Delete	10% opacity standard for waste gas incinerators	**Retain or provide further information due to potential emissions impact** The 10% opacity monitoring requirement for the waste gas incinerators should remain in place to ensure compliance with the particulate matter standard of 15 pounds per hour for each unit. **Alyeska has indicated a desire to retract this amendment request.*

Table 1: AQC Permit to Operate No. 9671-AA001
Summary of Amendments and PWSRCAC Recommendations
Regarding Proposed Amendments

Condition No.	Alyeska Request	Scope	PWSRCAC Recommendation
Exhibit C	Modify	Boiler fuel and opacity monitoring requirements. Waste gas incinerator fuel monitoring.	**Retain or provide further information due to potential emissions impact** Retain all requirements of Exhibit C, until Alyeska provides a revised Alternative emission Monitoring Program (AMP) that meets ADEC's approval. These monitoring requirements ensure compliance with the emission standards.
Exhibit C	Modify	Waste gas incinerator test recordkeeping requirements.	**Administrative** Exhibit C could be streamlined by eliminating the record keeping requirement for the obsolete waste gas incinerator test.
Exhibit D	Delete a portion	Notary requirement for Facility Operating Reports.	**Administrative** 18 AAC 50.345(j) requires notarized reports.

Table 2: AQC Permit to Operate No. 0071-AC005 Summary of Amendments and PWSRCAC Recommendations Regarding Proposed Amendments

Condition No.	Alyeska Request	Scope	PWSRCAC Recommendation
1 & 2	Delete	Establishes relationship between the two existing VMT air quality permits 9671-AA001 and 0071-AC005	**Administrative** Upon Title V approval, Conditions 1 and 2 will become obsolete.
16.1.2	Delete	Notary requirement for Excess Emission Reports	**Administrative** 18 AAC 50.345(j) requires notarized reports.
17.1-17.4	Modify	Tank Bottoms Processing (TBP) System Equipment Inventory	**Retain or provide further information due to potential emissions impact** PWSRCAC support amendments for permitting flexibility, when it can be demonstrated by the applicant that increased flexibility can be achieved while ensuring emission limits can be met. Additional supporting information is needed to make that determination.
19	Delete	Standard Operating Procedures for TBP and SVE Systems	**Retain or provide further information due to potential emissions impact** Condition 19 should be retained to ensure that there are procedures in place to minimize VOC emissions. Potentially, alternative procedures could be developed by Alyeska, and approved by ADEC, which accomplish the same goal.
20	Delete	Standard Operating Procedures for control of VOCs at TBP and SVE Systems	**Retain or provide further information due to potential emissions impact** Condition 20 should be retained to ensure that there are procedures in place to minimize VOC emissions. Potentially, alternative procedures could be developed by Alyeska, and approved by ADEC, which accomplish the same goal.
21	Delete	Keep a copy of the permit, laws and regulations at the facility.	**Administrative** Condition 21 seems to be a reasonable administrative expectation.

Table 2: AQC Permit to Operate No. 0071-AC005 Summary of Amendments and PWSRCAC Recommendations Regarding Proposed Amendments

Condition No.	Alyeska Request	Scope	PWSRCAC Recommendation
23	Delete	Operating hour restriction for TBP system emission sources.	**Retain due to potential emissions impact** Condition 23 provides an easily quantifiable compliance measure for VMT field staff to use to monitor compliance with the permit and separate boiler operating hour restrictions must be imposed to ensure that boilers used for tasks outside of the TBP process are limited to a total of 4,368 hours of operation.
25	Modify	Internal Combustion Engine catalytic converter control requirements and TBP system leak detection	**Retain due to potential emissions impact** Condition 25 ensures that there are quantifiable, measurable standards for VOC compliance monitoring of the IC engine exhaust, and the TBP system VOC emissions.
26	Modify	TBP system process monitoring and record keeping requirements	**Retain due to potential emissions impact** Consideration should be give to Alyeska's recommendation for VOC monitoring of the IC engine stacks; however, the other requirements of Condition 26 should be retained to minimize VOC emissions from the TBP system.
27.1-27.2	Modify	SVE system process monitoring and record keeping requirements	**Retain or provide further information due to potential emissions impact** Alyeska has not provided a technical analysis to support a less frequent VOC sampling frequency (once a month vs. every 4 days).
27.3	Delete	SVE system test methods and record keeping requirements.	**Administrative** The test method listed in this condition is technically supported. The benefit of deleting this method is not clear.
28.5	Delete last sentence	Equations and techniques for recording SVE system test data	**Administrative** Standard test methods have standard equations and techniques for record keeping; therefore, this request for consistent record keeping practices is logical.
28.6	Delete last sentence	Equations and techniques for estimating TBP system VOC emissions	**Administrative** There are no equations and techniques for calculating the TBP emission estimates in Condition 26; therefore, deleting Condition 28.6 does not seem to be warranted.

Table 2: AQC Permit to Operate No. 0071-AC005 Summary of Amendments and PWSRCAC Recommendations Regarding Proposed Amendments

Condition No.	Alyeska Request	Scope	PWSRCAC Recommendation
34	Delete	H_2S test for TBP vapors used as fuel	**Retain or provide further information due to potential emissions impact** PWSRCAC recommends retaining the language of Condition 34, until Alyeska provides technical data to demonstrate that fuel sulfur monitoring is not required to show compliance with the sulfur dioxide emission standards.
36.2	Delete	H_2S reporting for Condition 34	**Administrative** Condition 36.2 should remain in place, until it is determined that deletion of Condition 34 is warranted.

Alyeska's Request to Delete AQC Permit to Operate No. 9671-AA001, Condition 3

Request: *"Delete this condition in its entirety."*

Basis: *"This condition imposes a generic 'good air pollution control practice' standard on the Valdez Marine Terminal (VMT) that is undefined in application. Conversely, 40 CFR 63.562(e) imposes a 'good air pollution control practice' standard on the operations at the VMT that is very well defined in application. As a result, condition 3, as worded, will only result in confusion and should be removed. Alyeska has had to comply with 40 CFR 63.562(e) since 1998 and expects to see it in the forthcoming operating permit.*

Effect of Change: *"No effect on emissions."*

Existing Condition 3 Language

"Permittee shall, at all times, include startup, shutdown, and malfunctions, install, maintain, and operate, each source including air pollution control equipment, testing equipment, and monitoring systems, in a manner consistent with safety and good air pollution control practices for minimizing emissions."

PWSRCAC Analysis of Proposed Change

Condition 3 imposes a generic "good air pollution control practice" standard on the Valdez Marine Terminal (VMT). Alyeska states that this standard is superceded by the "good air pollution control practice" standard in National Emission Standard for Hazardous Air Pollutants (NESHAP), 40 CFR 63, Subpart Y, otherwise known as the "Marine Vessel Loading Rule." Alyeska proposes to replace Condition 3 language with the requirements of Marine Vessel Loading Rule, 40 CFR 63.562(e).[20] EPA regulations at 40 CFR 63.562(e) are specific to the National Emission Standards for Marine Tank Vessel Loading Operations. Under the applicability requirement of Subpart Y,[21] the 63.562(e) standard is limited to control of hazardous air emissions and the equipment associated with the VMT marine tank loading and associated vapor recovery system. This standard[22] does not apply to the control of criteria air pollutants or to control of hazardous air emissions from any other equipment at the VMT that is not covered by Subpart Y (e.g. other combustion equipment, tank venting, BWTF emissions,

20 40 CFR 63.562(e) reads as follows: "Operation and maintenance requirements for air pollution control equipment and monitoring equipment for affected sources. At all times, including periods of startup, shutdown, and malfunction, owners or operators of affected sources shall operate and maintain a source, including associated air pollution control equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether acceptable operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source"

21 §63.560.

22 §63.562(e).

etc). By comparison, Condition 3 does apply to all other equipment at the VMT not covered by Subpart Y.

It seems reasonable to consider modifying Condition 3 to exclude the equipment already covered under the rules of Subpart Y, yet retain Condition 3 to address all the remaining equipment that is not covered by Subpart Y. This will ensure that Alyeska is legally required to ensure that "good air pollution control practice" is implemented for all air emission sources at the VMT, not just the vapor recovery system regulated under Subpart Y.

Condition 3 also requires the VMT to operate sources in a manner that minimizes emissions. This condition is particularly important for use at older facilities, such as the VMT, where some emission sources are either "grand fathered" or do not have specific emission limits set by New Source Performance Standards (NSPS) or National Emission Standards for Hazardous Air Pollutants (NESHAP). Condition 3 requires that these sources be operated in accordance with "good air pollution control practices for minimizing emissions."

Alyeska's suggestion that removing Condition 3 in its entirety will have "no effect on emissions" warrants further investigation. Absent Condition 3, some VMT air emission sources will have no or minimal emission standards and control requirements (e.g. tank vents or BWTF emissions). Without the requirement to operate VMT sources in accordance with "good air pollution control practices for minimizing emissions," there may be an adverse "affect on emissions."

PWSRCAC is aware that ADEC has adopted into regulation a standard permit condition, which addresses "good air pollution control practices." Although Alyeska has not recommended this as a replacement standard, ADEC adopted 13 Standard Permit Conditions into regulations on May 3, 2002. The regulations state that ADEC will use the standard conditions unless source specific conditions more adequately satisfy 18 AAC 50. ADEC has developed a Standard Permit Condition for Good Air Pollution Control Practices, Under 18 AAC 50.346(b)(2).[23] This Standard Permit Condition would require Alyeska to perform regular maintenance, and keep records, but it excludes the requirement for Alyeska to use "good air pollution control practices for minimizing emissions."[24] Condition 3 more adequately satisfies 18 AAC 50, is a source-specific requirement, and should be used rather than the standard condition in this case. Condition 3 is a key condition of a Title I New Source Review (NSR) permit[25] and should be included in the Title V permit. The EPA Title V

[23] 18 AAC 50.346. CONSTRUCTION AND OPERATING PERMITS: OTHER PERMIT CONDITIONS. (b) In an operating permit, the department will use the standard permit conditions listed in this subsection, unless the department determines that source or facility-specific conditions more adequately meet the requirements of 18 AAC 50 or that no comparable condition is appropriate for the facility or source. The following standard permit conditions prepared by the department are adopted by reference: (2) Standard Operating Permit Condition VI – Good Air Pollution Control Practices, April 1, 2002

[24] The Standard Permit Condition Language reads as follows: 1. Good Air Pollution Control Practice. 1.1. The permittee shall do the following for sources <identify sources>: a. perform regular maintenance considering the manufacturer's or the operator's maintenance procedures; b. keep records of any maintenance that would have a significant effect on emissions; the records may be kept in electronic format; c.keep a copy of either the manufacturer's or the operator's maintenance procedures.

[25] Otherwise referred to as a Prevention of Significant Deterioration (PSD) permit, AQC Permit to Operate No. 9671-AA001. For further explanation of the NSR Program, refer to the Background Section of this paper.

Regulations at 40 CFR 70.2 require that all permit conditions be included in the Title V (Part 70) permits.[26]

EPA has reaffirmed, in several guidance documents, that any term or condition of a NSR permit is federally enforceable and should be included in the Title V Operating permit.[27] EPA advises due caution to permitting authorities when revising or deleting NSR permit requirements as a part of the Title V permitting process. EPA recommends that permitting authorities limit deletion to conditions that "are obsolete, extraneous, environmentally insignificant, or otherwise not required as part of the SIP or a federally-enforceable NSR program." Since Condition 3 does not meet these criteria, it should be retained.

PWSRCAC Recommendation

Condition 3 is necessary to impose "good air pollution practices for minimizing emissions" at the VMT. The replacement standard recommended by Alyeska, 40 CFR 63.562(e) for 'good air pollution control practice', is not a satisfactory replacement for Condition 3, as it only applies to a limited sub-set of the VMT facility emissions. Condition 3 more adequately satisfies 18 AAC 50, and should be used in rather than ADEC's Standard Operating Permit Condition VI – Good Air Pollution Control Practices. Overall, there does not seem to be a compelling reason to delete this condition in its entirety; however, it does seem reasonable to consider modifying Condition 3 to exclude the equipment already covered under the rules of Subpart Y and address that equipment separately in the revised permit.

PWSRCAC recommends that Condition 3 be modified to include all VMT equipment, except that equipment specifically covered under the "*good air pollution control practices"* of Subpart Y. PWSRCAC also recommends that the revised permit clearly reiterate the requirement to comply with all applicable requirements of Subpart Y. This recommendation streamlines the permit by eliminating redundant and conflicting requirements.

Alyeska's Request to Modify AQC Permit to Operate No. 9671-AA001, Condition 11

Request:	*"Modify this condition to state, 'Permittee shall collect working loss and breathing loss vapors from the crude oil storage tanks (source nos. 17-34 in Exhibit A) and dispose of them via combustion in either the power boilers or the waste gas incinerators (source no. 1-6 in Exhibit A)."*
Basis:	*"The current construct of the condition, with vague and subjective words and phrases such as "to the maximum extent possible", "all excess vapors", and 'to minimize emissions", introduces confusion rendering the condition of questionable enforceability. The proposed condition, along with the 'good air pollution control practice' requirement previously discussed is much more clear and enforceable".*
Effect of Change:	*"No effect on emissions."*

[26] "Applicable requirement means all of the following as they apply to emissions units in a part 70 source …(2) Any term or condition of any pre-construction permits issued pursuant to regulations approved or promulgated through rulemaking under title I, including parts C or D, of the Act;

[27] USEPA, "Region 10 Questions and Answers #1&2: Title V permit Development", March 19, 1996, and USEPA, "White Paper for Streamlined Development of Part 70 Permit Applications", July 10, 1995.

Existing Condition 11 Language

"Permittee shall, to the maximum extent possible with existing equipment, collect all excess vapors from the crude oil storage tanks identified as Source No. 17 through 34 in Exhibit A, and either burn the vapors as fuel in the power boilers, Source No. 1 through 3, or dispose of the vapors in one or more of the waste gas incinerators, Source No. 4 through 6, in order to minimize the emissions of vapors to the atmosphere."

PWSRCAC Analysis of Proposed Change

Condition 11 requires Alyeska to collect all storage tank emissions and burn them in the power boilers or the waste gas incinerators. Alyeska's suggested modification does not change the technical process requirement to collect vapors and burn them, rather the request seeks to eliminate the terms "to the maximum extent possible with existing equipment" and "in order to minimize the emissions of vapors to the atmosphere," without replacement. Please see a redlined version of Alyeska's suggested change below:

> "Permittee shall~~, to the maximum extent possible with existing equipment~~, collect ~~all excess~~ ~~vapors~~ *working loss and breathing loss vapors* from the crude oil storage tanks identified as Source No. 17 through 34 in Exhibit A, and ~~either burn the vapors as fuel in the power boilers, Source No. 1 through 3, or dispose of the vapors in one or more of the waste gas incinerators, Source No. 4 through 6, in order to minimize the emissions of vapors to the atmosphere .~~" *dispose of them via combustion in either the power boilers or the waste gas incinerators (source no. 1-6 in Exhibit A)*

The terms, proposed for deletion, describe the goals and intent of the condition. Alyeska has not presented a compelling argument for deleting key terms of this condition.

PWSRCAC Recommendation

PWSRCAC recommends that Condition 11 be retained without revision.

Alyeska's Request to Delete AQC Permit to Operate No. 9671-AA001, Conditions 10, 12, and 13

Request: *"Delete these conditions in their entirety."*

Basis: *"These conditions, as currently worded, add only confusion to the terminal permit and serve no regulatory purpose. Additionally, these conditions, as worded, effect no real emission reductions as Attachment 1 demonstrates. It has only been the 'good engineering pollution control practice' requirements of 40 CFR 63.562(e), applicable to Alyeska since 1998, that achieved the results attempted by these confusing conditions. We expect this requirement to be referenced in our operating permit.*

Attachment 1 depicts the annual sum of each individual tank venting time from 1988 through the 2nd quarter of 2002. Note that since the compliance date for the marine vessel loading rule (40 CFR 63 Subpart Y), the annual cumulative vent times have been less than 100 minutes per year. Nearly 100% of the venting that

has occurred since that date has been the result of unavoidable short-term system malfunctions. This graph conclusively shows that the onerous and burdensome requirements around tank venting in permit 9671-AA001 are simply unnecessary.

Condition 10 conveys a requirement to report tank cleaning activities. Tank cleaning is obviously a historical activity and, since there are no regulations or limitations regarding such, any information around the activities has to be useless to the department.

Condition 12 limits tank venting to 850 minutes per year but contains many exclusions. Only venting that results from operator error or manual control failure is to be counted against the limit. However, since Alyeska treats all tank venting as excess emissions no matter the cause, we strive to avoid it in all cases. As such, we have never used this limit and do not intend to start. Alyeska, consistent with 18 AAC 50.235 and 240, will report and mitigate the emissions from any tank venting that occurs.

Condition 13 requires that the crude oil storage tanks and the vapor recovery system be operated according to a 'Best Operational Management Plan'. This plan was developed over ten years ago to address venting incidents that occurred as a result of bottoms dropping. As stated above, Alyeska strives to avoid venting in all cases and has demonstrated that venting in all operational scenarios can be controlled. Also, as stated previously, Alyeska must operate in accordance with the 'good air pollution control practices' requirements of 40 CFR 63.562(e) and, as such, this plan covering only a small portion of the tank farm operations is no longer needed."

Effect of Change: *"No effect on emissions."*

Existing Condition 10 Language

"Permittee shall provide the Department annually a list of crude oil storage tanks to be cleaned and inspected during that calendar year. Tank venting resulting from the annual procedure must be included in the quarterly Facility Operating Report, as described in Exhibit D. 24 hour verbal notification and five day excess emission written reports are not required for scheduled maintenance procedures involving tank decommissioning, cleaning, inspection and recommissioning. 24 hour and five day excess emission written reports are also not required for maintenance procedures involving scheduled maintenance of the vapor recovery system. All emissions associated with scheduled maintenance of the crude oil storage tank vapor recovery system must be reported in the quarterly Facility Operations Report, as described in Exhibit D, Part 8(c)."

Existing Condition 12 Language

"The venting to the atmosphere of vapors from the crude oil storage tank farm identified as source numbers 17 through 34 in Exhibit A shall not exceed 850 minutes in any 12 consecutive months, excluding venting incidents resulting from scheduled maintenance of the storage tanks and the crude oil storage tank vapor recovery system, emergency repair to the crude oil storage tank vapor recovery system, emergency repairs to the crude oil storage tank vapor recovery system, venting due to unavoidable operational upsets and or equipment malfunctions,. Failures caused entirely or in part by poor maintenance, careless operation or any other preventable equipment breakdown shall not be considered a malfunction. All crude oil storage tank farm venting incidents excluding tank venting resulting from scheduled maintenance of the crude oil storage tanks and their vapor recovery system,

are to be reported in accordance with Condition 26. The crude oil storage tank venting resulting from the excludable incidents, will be reported in the quarterly Facility Operating Report."

Existing Condition 13 Language

"Permittee shall operate crude oil storage tanks and their vapor recovery systems according to the Vapor Recovery Best Operational Management Plan submitted June 15, 1994, or the most recent version approved by the Department."

PWSRCAC Analysis of Proposed Change

In this request, Alyeska makes three key points:

1. Alyeska asserts that any information associated with tank cleaning activities is "useless to the Department."

2. Alyeska plans to report all excess emissions, and does not plan to make use of the excess emission allowance provided for in Condition 12 (850 minutes in any 12 consecutive months).

3. Alyeska states that it strives to avoid venting in all cases, and has demonstrated that venting in all operational scenarios can be controlled. Attachment #1 is provided to show the results of the Leak Detection and Repair (LDAR) program for storage tank vents. Alyeska points out that the requirements of Condition 13 are redundant, since they are also required to control storage tank emissions under 40 CFR 63.562(e). They note that Condition 13 requires that the crude oil storage tanks and the vapor recovery system be operated according to the "Best Operational Management Plan" that was developed over ten years ago to address venting incident and that the plan is outdated and superceded by the requirements of 40 CFR 63.562(e).

To support their first assertion, Alyeska states that any information associated with tank cleaning activities is "useless to the Department.[28]" Under 18 AAC 75, the Department requires tank cleaning, inspection and repair of the storage tanks in accordance with the API 653 standards. Internal tank inspections are typically required on a ten year interval. Most storage tanks at the VMT are due for a 10-year internal inspection during the 2003-2007 timeframe. However, this information is already provided to ADEC through the requirements of the Oil Discharge Prevention and Contingency Plan (c-plan) for the VMT. Condition 10 could be streamlined by recognizing that ADEC already receives information on storage tank cleaning, inspection and repair through the c-plan. Condition 10 could be further streamlined by recognizing that the reporting requirements of Condition 10 are redundant with standard reporting requirements for excess emissions in 18 AAC 50.235 and 18 AAC 50.240.

Alyeska's second request, to eliminate the 850-minute excess emission allowance, warrants due consideration. Alyeska's proposal voluntarily reduces the 850-minute excess emission allowance to zero, agreeing to report all emissions, rather than just those that exceed the allowance. Alyeska's proposal reduces ADEC's administrative burden and results in no adverse air quality impact. Alyeska also points out that this requirement is redundant with

[28] Alyeska (Thomas) later clarified that this statement was intended to mean "useless to the ADEC Air Quality Program" not to the Department as a while, 11-21-02 Meeting with PWSRCAC (Kuckertz) and Environmental Solutions (Harvey)

the standard reporting requirements for excess emissions in 18 AAC 50.235 and 18 AAC 50.240. This request simplifies the reporting requirements for Alyeska, as all excess emissions are reported.

On the third issue, although Alyeska Leak Detection and Repair (LDAR) program for storage tank vents has reduced the emission of Volatile Organic Compounds (VOCs) emitted from the storage tank vents, it is not currently an enforceable requirement of the VMT permit, except through the general pollution control requirements of condition 3. LDAR programs have been proven effective throughout the United States and are strongly supported by EPA. Clearly, the LDAR program for storage tank vents should continue at the VMT. Unfortunately, there is currently no federally enforceable standard for storage tank vent LDAR under 40 CFR 63.562(e), as Alyeska suggests. EPA Regulations at 40 CFR 63.562(e) are specific to the National Emission Standards for Marine Tank Vessel Loading Operations 40 CFR 63, Subpart Y. Under the applicability requirement of Subpart Y (§63.560), the standards of 63.562(e) are limited to control of hazardous air emissions and the equipment associated with the VMT marine tank loading and associated vapor recovery system. This standard (40 CFR 63.562(e)) would not apply to control of criteria air pollutants or would not apply to control of hazardous air emissions from any other equipment at the VMT that is not covered by Subpart Y (e.g. other combustion equipment, tank venting, BWTF emissions, etc).

In its comments to EPA on the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Organic Liquid Distribution (OLD)(non-gasoline) operations (40 CFR 63, Subpart EEEE), PWSRCAC recommended that an LDAR program for storage tanks should be required to control hazardous air emissions at the terminal. However, EPA is unlikely to develop the final Subpart EEEE rule until the summer of 2003. If EPA imposes a LDAR requirement for storage tanks in Subpart EEEE, that federally enforceable standard would serve as an appropriate replacement for Condition 13.

Condition 13 does not bind Alyeska to use of an outdated Best Operational Management Plan; rather the condition provides Alyeska with an opportunity to submit an updated management plans to the Department for their approval. If Alyeska is currently implementing a storage tank LDAR and vent emission reduction program at the VMT, that should be documented in the Best Operational Management Plan, and an updated version should be submitted to ADEC.

PWSRCAC Recommendation

PWSRCAC's review indicated that Alyeska's recommendation to replace Condition 26 with revised and updated state excess emission reporting requirements of 18 AAC 50.235[29] and 18 AAC 50.240[30] would not result in any adverse emission impacts.

PWSRCAC recommends that ADEC accept Alyeska's proposed amendment to Condition 12, which eliminates the 850-minute excess emission allowance and requires all excess emissions to be reported in accordance with the procedures and requirements of 18 AAC 50.235 and 18 AAC 50.240. This request streamlines the reporting requirements, makes them more stringent, and has no adverse affect on actual emissions.

[29] 18 AAC 50.235. Unavoidable Emergencies and Malfunctions.
[30] 18 AAC 50.240. Excess Emissions.

PWSRCAC recommends that Condition 13 remain in place until these requirements are superceded by LDAR requirements for storage tanks in the final OLD NESHAP, 40 CFR 63, Subpart EEEE. In the interim, ADEC should ensure that Alyeska's Vapor Recovery Best Operational Management Plan clearly documents Alyeska's commitment to the storage tank LDAR Program at the VMT.

Alyeska's Request to Delete AQC Permit to Operate No. 9671-AA001, Conditions 14 and 15

Request: *"Delete these conditions in their entirety."*

Basis: *Alyeska Letter No. 02-18309*

"First, the lack of a regulatory or statutory basis for these terms is most troubling. They did not arise out of a change in the SIP or 18 AAC 50. They did not arise out of a construction permit or a request by Alyeska. The department brought no formal enforcement against Alyeska prior to the institution of the permit terms. Essentially the terms arose out of the opportunity provided to department staff through a permit renewal. In 1989 section 18 AAC 50.310 stated that a permit may be revised if applicable requirements were violated. However, the alleged opacity violations were not caused by nor were they the responsibility of Alyeska; they were the responsibility of independent marine vessels. The applicable opacity standard in 1989 and now contain no special provisions requiring shoreside facilities to assume responsibility for marine vessels at the berth.

Present Alaska air statutes and regulations would not authorize the institution of permit terms in this manner. AS 46.14.280 only authorizes the department to impose permit terms, other than through construction permitting, when the permittee violates an applicable requirement and then only when certain procedures are satisfied. The tank vessels may have exceeded the state opacity limit, but Alyeska was not the entity violating the standard and therefore, should not have been subject to permit terms in response to those exceedances.

Second, Alyeska has examined whether the department has engaged in the use of similar terms with other marine vessel ports and could not find any such instance. Marine vessels at other ports have not had this requirement and yet we know, as does the entire states, that this has been a major issues at Southeastern Alaska ports.

Third, throughout the course of recent operating permit actions, permitted facilities in Alaska have requested the removal of permit conditions that are not founded upon an underlying applicable requirement (e.g., 18 AAC 50, SIP, construction permit, federal standard, compliance order). Indeed the department has encouraged this form of permit hygiene in preparation for the development and issuance of Title V operating permits. This is one of those instances where the condition was not founded upon one of these express legal bases and should be removed through hygiene.

Fourth, an important consideration has been the burdens the implementation of this permit has had for Alyeska, tank vessels and the Department. Essentially the permit term required Alyeska to perform a opacity reading on a emission source it does not control and then act as a policeman by refusing to de-ballast or load the vessel while the vessel, in Alyeska's opinion, exceeds the opacity standard. Further, when one of these events occurs Alyeska must engage in a discussion with the vessel on one hand and the department on the other about the status of the vessel's compliance and when deballasting or loading may occur. This becomes particularly difficult when the department and the vessel engage in discussions of their own concerning the nature of the violation and when de-ballasting or loading can occur. Alyeska is the party burdened with the monitoring and de-ballasting or loading terms, not the vessel or the department, which leaves Alyeska in the most uncomfortable of positions when the department reaches agreement with the vessel on the commencement of loading that does not conform with Alyeska's permit terms. This has happened.

Alyeska has not endeavored in this memorandum to assert numerous other legal bases that clearly show these permit terms to be outside of the Department's statutory authority and violate other state laws. The explanation provided above more that [than] justified the deletion of these terms. However, we are happy to provide that information if necessary and would do so should this matter be appealed."

Effect of Change: *"No effect on emissions."*

Existing Condition 14 Language

"Permittee shall cease loading and unloading operations on any vessel berthed at the facility following an observation of opacity violations as defined in 18 AAC 50.100 and may not resume loading and unloading operations on any vessel until marine vessel emissions are brought into compliance with State opacity standards."

Existing Condition 15 Language

"Permittee shall monitor the visible emissions from any marine vessel berthed at the facility using an observer trained in accordance with 'Alaska Air Quality Visible Emissions Evaluation Procedures', 18 AAC 50.500(e)(3). A qualified observer will be on duty at the facility at all times, and is to be notified by the Berth Operator whenever significant visible emissions are observed from a vessel. Each such incident is to be reported as described in condition 27."

PWSRCAC Analysis of Proposed Change

Condition 14 requires Alyeska to cease loading or unloading operations of a tanker berthed at the Valdez Marine Terminal (VMT) when tanker visible emissions exceed permitted levels. Alyeska states that it is not their responsibility to cease loading or unloading operations if the tanker violates the state opacity standards. Alyeska's reasoning is confusing since Condition 14 does not require Alyeska to take any action aboard the vessel to mitigate the opacity event; rather, the condition merely requires that Alyeska stop ***their own*** terminal loading and unloading operation in the presence of a state opacity standard violation. Since loading and unloading operations at the VMT are under Alyeska's operational control, the requirement to stop loading and unloading operations can only logically be imposed on Alyeska, the owner/operator of the that facility.

Alyeska states that tanker opacity violations are not Alyeska's responsibility and that they should not be required to "police" this issue. Alyeska states that opacity observations are a matter of "opinion," and that ADEC has previously made contradictory determinations on opacity at the VMT, putting Alyeska in an uncomfortable compliance situation.

Condition 15 requires Alyeska to use a qualified observer to monitor tanker opacity, while berthed at the VMT, and to report any violations of the state opacity standards.[31] Condition 15 does not require Alyeska to take any action aboard the vessel to mitigate the opacity event; rather, the condition merely requires that Alyeska have a qualified observer on duty at the facility at all times to monitor opacity.

Condition 15 requires that Alyeska staff be properly trained to determine when loading and unloading operations must cease. To make that determination, Alyeska observers must be trained in accordance with Alaska Air Quality Visible Emissions Evaluation Procedures to become a certified opacity reader. [32] Alyeska trains its staff in the approved EPA Method 9 and re-certifies them every six months, as required. Due to the close physical proximity of ADEC's field office in Valdez to the VMT, Alyeska staff can readily seek and obtain an agency opacity reading and determination, if there is any question or concern by Alyeska's staff. In the case of differing opinions on the opacity reading, ADEC could issue a written determination to confirm ADEC's opacity reading and mitigate Alyeska's compliance concerns.

Although Alyeska's basis for requesting PSD amendments is, in part, based on reducing redundancy, achieving operational efficiencies and overall streamlining the VMT permit, Alyeska's request to delete Conditions 14 and 15 seems to contradict that goal by adding redundant staff positions and increasing the overall cost of opacity monitoring. Alyeska is already required to staff trained opacity observers to monitor the opacity of other emission sources at the VMT. Currently, Alyeska's trained opacity observers monitor all terminal opacity requirements, including tanker opacity. Alyeska's request would require that each tanker operator provide separate, trained opacity observer(s) to monitor tanker opacity while each tanker is docked at the VMT. To obtain an accurate opacity reading[33], the tanker opacity observers would be required to physically observe the tanker stacks from an on-land observation point. Thus, separate, redundant vessel staff would be required to be trained and placed on-land during the entire period that the tanker is docked at the VMT for the sole purpose of observing the tanker opacity. This proposal seems particularly inefficient for companies that own shares in both the tankers berthed at the VMT and the VMT itself.

Alyeska reasons that Conditions 14 and 15 did not arise from "construction permitting"[34] and assumes that the State imposed these conditions solely based on AS 46.14.280. This appears to be incorrect. Conditions 14 and 15 were imposed as a result of the 1995 PSD application approval. Consistent with the Clean Air Act, the PSD determination concluded that while unloading or loading at the VMT, tanker emissions are primary "facility" emissions. Thus, the tanker emissions were included in the VMT emission inventory and subsequent "source-specific" emission limitations were imposed in the PSD permit to ensure compliance with state

[31] Air Quality Control Permit No. 9671-AA001 references the 18 AAC 50.100 opacity standards, which has since been renumbered by ADEC as 18 AAC50.070.

[32] Alaska accepts EPA Method 9 opacity certification, 40 CFR Chapter I, Part 60, Appendix A.

[33] In accordance with EPA Method 9

[34] Construction permitting, in this case, is also referred to as VMT Prevention of Significant Deterioration (PSD) Permit.

and federal air quality standards[35]. Of note, these "source-specific" emission limitations for opacity monitoring and control have resulted in a substantial reduction of opacity violations.

Since Conditions 14 and 15 were imposed by ADEC as a specific condition of a NSR permit and the validity of those conditions was not challenged by Alyeska in 1996, and the condition has been in place since that time, they are enforceable standards for the purpose of the Title V Operating Permit Program. EPA's Title V Operating Permit Program regulations at 40 CFR 70.2 define any term or condition of a NSR permit issued under a Federal or SIP-approved NSR program as being an applicable requirement.

Furthermore, the intent of Conditions 14 and 15 are consistent with the Clean Air Act. [36] The Clean Air Act specifies that tank vessel standards, to the extent practicable, "shall apply to ***loading and unloading facilities*** and not to ***tank vessels***[37]."

EPA has also issued guidance on whether ship emissions are "primary" emissions to the loading or unloading facility for the purposes of New Source Review (NSR). [38] EPA's guidance states that: "any ship emissions which result from the unloading of the ships are directly involved in dock operations and therefore are considered primary."

Alyeska's 1995 VMT PSD Application[39] is consistent with the Clean Air Act and EPA guidance, and includes all tanker emissions while berthed (unloading ballast and loading crude oil) at the VMT terminal. The application specifically notes that the maximum emission case for the tanker emissions corresponds to ballast discharge and includes tanker stack emissions for loading and unloading operations in the VMT Emission Source Inventory[40]. One tanker operator recently confirmed that tanker excess emissions and opacity issues have, most commonly, been a result of the increased power requirements to deballast.[41]

PWSRCAC Recommendation

PWSRCAC recommends that Conditions 14 and 15 remain in place to ensure that VMT loading and unloading operations are conducted in compliance with the state opacity standards.

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[35] 18 AAC 50.070. Marine Vessel Visible Emission Standards.

[36] 42 U.S.C 7401-7671q.

[37] **(f)** Tank vessel standards **(1)** Schedule for standards **(A)** Within 2 years after November 15, 1990, the Administrator, in consultation with the Secretary of the Department in which the Coast Guard is operating, shall promulgate standards applicable to the emission of VOCs and any other air pollutant from loading and unloading of tank vessels (as that term is defined in section 2101 of title 46) which the Administrator finds causes, or contributes to, air pollution that may be reasonably anticipated to endanger public health or welfare. Such standards shall require the application of reasonably available control technology, considering costs, any nonair-quality benefits, environmental impacts, energy requirements and safety factors associated with alternative control techniques. To the extent practicable such standards shall apply to loading and unloading facilities and not to tank vessels.

[38] EPA Guidance Document from EPA Division of Stationary Source Enforcement to Air and Hazardous Materials Division, Region VI, "Emissions from Ships Unloading at a Dock", April 12, 1979.

[39] Alyeska Pipeline Service Company application to the Alaska Department of Environmental Conservation, "Prevention of Significant Deterioration Application for the Valdez Marine Terminal Vapor Control Project", October 24, 1995.

[40] 940 tons per year of SO_2 emissions, 215 tons per year of NO_x and 54.6 tons per year of PM_{10} emissions

[41] Telephone conversation between Tom Colby, Alaska Tanker Company, and Susan Harvey, Environmental Solutions, April 26, 2002.

Alyeska's Request to Delete AQC Permit to Operate No. 9671-AA001, Condition 16

Request: *"Delete this condition in its entirety."*

Basis: *"The testing required by this condition has been performed so this condition no longer has any meaning."*

Effect of Change: *"No effect on emissions."*

Existing Condition 16 Language

"Within 180 days of the March 19, 1998 compliance date for the Tanker Vapor Collection System, permittee shall conduct source tests using applicable U.S. Environmental Protection Agency Reference Method set out in 40 CFR Part 51, Appendix M, 40 CFR Part 60, Appendix A, or an alternative demonstration approved in advance by the Department, to ascertain mass emission rates and concentrations of particulate matter less than 10 microns (PM-10), oxides of nitrogen, and visible emissions at maximum rated capacity in each of the Waste Gas Incinerators, in order to determine compliance with applicable permit limits. Permittee shall collect operating parameters as described in Exhibit C during all testing. Permittee may be required to limit maximum capacity to the demonstrated compliance level determined as a result of these tests."

PWSRCAC Analysis of Proposed Change

Condition 16 required source tests to be conducted on the VMT Waste Gas Incinerators in 1998. These tests have been completed and the specific requirements of Condition 16 are now obsolete. EPA has concluded that obsolete conditions do not need to be included in the Title V Operating Permit as an applicable requirement.[42]

PWSRCAC Recommendation

PWSRCAC's review indicated that Alyeska's recommendation to delete Condition 16 in its entirety has no affect on actual emissions, and would streamline the permit.

Alyeska's Request to Delete AQC Permit to Operate No. 9671-AA001, Condition 23

Request: *"Delete this condition in its entirety."*

Basis: *"The existence and justification of this condition, with no connection to any new source performance standards (NSPS), is mystifying. The power boilers' heat input is approximately 50% gas and 50% no. 2 diesel fuel; boiler fuels that have not presented themselves as opacity problems anywhere. Thus, there are no reasons*

[42] USEPA, "White Paper for Streamlined Development of Part 70 Permit Applications", July 10, 1995, p. 12 "The EPA recognizes that NSR permits contain terms that are obsolete, extraneous, environmentally insignificant, or otherwise not required as part of the SIP or a federally-enforceable NSR program. Such terms, as subsequently explained, need not be incorporated into the part 70 permit to fulfill the purposes of the NSR and Title V programs required under the Act.

under state regulation to require their use. Alyeska originally installed the opacity monitors to comply with 40 CFR Subpart D but now believes the application of that NSPS was incorrect. We have sought an applicability determination from EPA to confirm this (please see Alyeska letter number 02-18206). If the power boilers at the Valdez Marine Terminal are subject to 40 CFR 60 Subpart D, Alyeska will comply with the applicable provisions through the operating permit."

Effect of Change: *"No effect on emissions."*

Existing Condition 23 Language

"Permittee shall calibrate, operate and maintain in good working order transmissometers for the power boilers, Source No. 1 through 3. Calibrations shall be performed in accordance with the Permittee's Quality Assurance Plan for these instruments."

PWSRCAC Analysis of Proposed Change

Alyeska states that the validity of Condition 23 is solely based on the outcome of the NSPS applicability determination. The requirement for opacity monitoring does not appear to hinge solely on the NSPS requirements of Subpart Db for opacity monitoring; rather, the requirement appears to have been established by ADEC to ensure compliance with the state particulate matter standard for fuel burning equipment. If Subpart Db also applies, then the basis for Condition 23 is further supported.

18 AAC 50.055(a)(1) prohibits more than 20% visible emissions from fuel-burning equipment[43]. Alaska state law also provides ADEC authority to require an owner or operator to report information about the nature and time periods or duration of emissions.[44] ADEC is also authorized to require monitoring of stack emissions to demonstrate compliance with the applicable emission standards.[45]

Condition 23 requires the use of opacity monitors on the power boilers to ensure that State opacity standards of 18 AAC 50.055 are not violated. ADEC imposed Condition 23 as a specific condition of an NSR permit. Alyeska did not challenge the validity of Condition 23 in 1996, and the condition has been in place since that time. EPA's Title V Operating Permit Program regulations at 40 CFR 70.2 define any term or condition of an NSR permit issued under a Federal or SIP-approved NSR program as being an applicable requirement. Condition 23 is not "obsolete, extraneous or environmentally insignificant," as opacity monitors are used to monitor compliance with the State Implementation Plan.[46]

The confusion seems to originate from the fact that the NSPS, Subpart Db also has an opacity monitoring requirement for boilers. Alyeska states that if NSPS, Subpart Db does not apply to the boilers, then the opacity monitoring requirement in Condition 23 is no longer valid. However, Alyeska does not provide evidence that Condition 23 solely originated from a NSPS requirement. Nor does Aleyska show how NSPS applicability, alone, warrants deletion of this

[43] 18 AAC 50.055. INDUSTRIAL PROCESSES AND FUEL-BURNING EQUIPMENT. (a) Visible emissions, excluding condensed water vapor, from an industrial process or fuel-burning equipment may not reduce visibility through the exhaust effluent by: (1) more than 20 percent averaged over any six consecutive minutes…

[44] AS 46.14.020.

[45] AS 46.14.180 and 18 AAC 50.220.

[46] 18 AAC 50.055.

source-specific permit requirement, especially in light of state opacity monitoring requirements outside of the NSPS standard.

Alyeska's proposed amendment does not provide an explanation of why Alyeska has accepted and implemented the requirements of Condition 23, unchallenged since 1996, and now, 8 years later is requesting their removal. Alyeska's amendment request states that they "originally installed the opacity monitors to comply with 40 CFR Subpart D but now believes the application of that NSPS was incorrect." However, Alyeska's 1995 PSD application, and subsequent correspondence with ADEC indicates otherwise. The permit record reflects that Aleyska has always interpreted Subpart Db as not being applicable to the VMT power boilers.[47] The record seems to reflect that, while Alyeska had concerns about the Subpart Db applicability determination, they did not seek a formal determination from EPA as requested by ADEC[48] and instead agreed to accept, unchallenged, the opacity monitoring requirements of Condition 23. Alyeska, more recently, has requested an EPA applicability determination to confirm their interpretation of the Subpart Db applicability to the VMT power boilers.

Even in light of Alyeska's 1996 NSPS reasoning, ADEC imposed an "enforceable limit" for control of particulate matter at the power boilers in the 1996 permit. Exhibit B of the 1996 VMT permit set a 20% opacity limits for all three power boilers, "not to be exceeded for more that three minutes in any one hour."[49] Exhibit B also stated that the power boilers must be operated in compliance with this "enforceable limit."[50] Exhibit C required "continuous monitoring of the opacity for each unit."[51] Clearly, ADEC required opacity monitoring to meet the state standards as an enforceable limit.

EPA's Title V Operating Permit Program regulations[52] and ADEC's regulations[53] require that source-specific permit requirements be included in the Title V Operating Permit. Condition 23 was imposed as a source-specific permit requirement to monitor compliance with the state opacity standard.

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[47] Prevention of Significant Deterioration Application for the Valdez Marine Terminal Vapor Control Project", October 24, 1995, Attachment 1, Valdez Marine Terminal Vapor Control Project, New Source Performance Standards Applicability, "The above discussion clearly outlines the applicability of Subpart Db to the power boilers and demonstrates that Subpart Db will not be triggered by the VMTVC Project".

[48] Condition 23 was imposed by ADEC even after specific correspondence was exchanged by ADEC and Alyeska on whether or not the New Source Performance Standards (NSPS) for Industrial – Commercial – Institutional Steam Generating Units, 40 CFR 60 Subpart Db applied. During the 1995-1996 modifications to the VMT PSD permit, ADEC requested that Alyeska seek an opinion from EPA as to whether or not Subpart Db applied to the VMT power boilers (ADEC Letter to Alyeska, PSD Application for VMT Vapor Control Project, September 1, 1995). Alyeska responded that Subpart Db did not apply to the power boilers and that a determination from EPA was unnecessary.

[49] Air Quality Control Permit No. 9671-AA001.

[50] Air Quality Control Permit No. 9671-AA001, Exhibit B, "Permittee shall operate each source in compliance with the applicable emission standards specified in 18 AAC 50.040-060, by an applicable federal New Source Performance Standard (NSPS) or National Emission Standard for Hazardous Air Pollutants (NESHAP), by limits established as the result of a BACT or LAER determination, or the requested emission limits, standards, fuel specifications, and operating limits below, whichever is most stringent."

[51] Air Quality Control Permit No. 9671-AA001, Exhibit C, "Permittee shall operate and maintain in good working order a system for recording and continuous monitoring of the opacity for each unit."

[52] 40 CFR 70.2.

[53] 18 AAC 50.350(d)(1)(D) "for a facility with a construction permit issued under this chapter or a permit issued under former 18 AAC 50.400, each facility-specific requirement established in the permit" and 18 AAC 50.350(d)(1)(C) "each emission standard listed in 18 AAC 50.050-18 AAC 50.075.

Alyeska's amendment request does not provide an economic argument for removing the power boiler transmissometers. The transmissometers are already installed and operating. There seems to be very little environmental or economic benefit from removing these opacity monitors from service.

PWSRCAC Recommendation

Overall, there does not seem to be a compelling reason to delete Condition 23. This condition was imposed as a source-specific permit requirement of an NSR permit. The requirement was accepted and implemented by Alyeska, even in light of their own determination that Subpart Db did not apply to the power boilers.

PWSRCAC recommends that Condition 23 remain in place until such time that:

1. ADEC determines that opacity monitoring is not required at the power boilers to demonstrate compliance with the state opacity standards; and
2. EPA determines that Subpart Db does not apply to the power boilers; and
3. EPA determines that it is appropriate to remove a source specific permit requirement of a NSR permit from a Title V Operating Permit.

Alyeska's Request to Delete AQC Permit to Operate No. 9671-AA001, Condition 25

Request: *"Delete this condition in its entirety."*

Basis: *"Alyeska Letter No. 02-18309[54] states that "…Alyeska is interested in amending certain terms from the former 18 AAC 50.400 permit that relate to marine tank vessel opacity monitoring, fuel sulfur monitoring, de-ballasting and crude oil loading…Alyeska is very interested in removing these terms from the permit for several important reasons. Our interest in requesting their removal is not economic, but rather is based upon the extraordinarily difficult position we have been placed in by the mandate of these permit terms requiring Alyeska to police the operation of the marine tank vessels during their ballast water unloading and crude oil loading. The reality is that Alyeska is not an appropriate surrogate policeman for the department because we are not the government…The requested changes are contained in Attachment 2, and in general, are intended to address the applicable terms and conditions associated with marine tank vessel opacity monitoring, vessel de-ballasting and crude oil loading, and vessel fuel sulfur monitoring, contained within the existing Terminal permit that have no underlying regulatory basis for their justification and are not functionally effective for Alyeska to enforce on the vessels…This permit condition was imposed at the same time as the conditions above for the purposes of linking vessel opacity and fuel sulfur. While that*

[54] Most of Alyeska Letter No. 02-1830 addresses their concern and rationale for removing vessel opacity monitoring requirement. Alyeska did not provide a technical explanation to justify removal of the fuel sulfur monitoring requirement.

information may be useful it is properly the responsibility of the tank vessels, not Alyeska, and, as such, must be deleted.[55] *"*

Effect of Change: *"No effect on emissions."*

Existing Condition 25 Language

"Permittee shall collect a fuel oil bunker sulfur analysis of a representative sample of diesel engine/boiler fuel from each crude oil tanker each time it berths at the facility. Permittee shall submit to the Department a tabulation of the results of all such tests, by tanker name, in the quarterly Facility Operating Report."

PWSRCAC Analysis of Proposed Change

Condition 25 requires Alyeska to coordinate the tanker fuel sulfur testing and reporting. Alyeska's primary line of reasoning is that there is "no underlying regulatory basis" for the fuel sulfur testing requirement. Alyeska's reasoning does not seem to be consistent with their 1995 PSD technical analysis, air quality modeling, or EPA policy. Fuel sulfur monitoring appears to supported by the following reasons:

1. EPA requires ship emissions, when docked, to be included in total emission inventory of the terminal facility;

2. EPA's New Source Review program requires ship emissions to be included in the air quality modeling analysis for terminals to verify National Ambient Air Quality Standard (NAAQS) compliance for the terminal;

3. Alyeska's Air Quality Permit No. 9671-AA001 is based on an annual average fuel sulfur limit of 1% for tanker fuel used while docked at the terminal; and

4. Alyeska accepted and has implemented these source-specific fuel sulfur monitoring requirements.

Once a tanker docks at the VMT berth, the Clean Air Act requires that its emissions be combined with the VMT's emissions to determine the total impact on the Valdez air shed. EPA has issued guidance on whether ship emissions are "primary" emissions to the loading or unloading facility for the purposes of New Source Review (NSR)[56]. EPA found "if the facility is directly involved with the operation of the PSD-affected source, the emissions are primary" to that facility. They specifically state that: "any ship emissions which result from the unloading of the ships are directly involved in dock operations and therefore are considered primary." Alyeska's 1995 VMT PSD Application is consistent with the Clean Air Act and EPA guidance, and includes all tanker emissions while berthed (unloading ballast and loading crude oil) at the VMT terminal.

The application specifically notes that the maximum emission case for the tanker emissions corresponds to ballast discharge and includes tanker stack emissions for loading and unloading operations in the VMT Emission Source Inventory (940 tons per year of SO_2

[55] In Alyeska Letter No. 02-18309, dated March 13, 2002, Alyeska is referring to Conditions 14 and 15 or Air Quality Control Permit to Operate No. 9671-AA001.

[56] EPA Guidance Document from EPA Division of Stationary Source Enforcement to Air and Hazardous Materials Division, Region VI, "Emissions from Ships Unloading at a Dock", April 12, 1979.

emissions, 215 tons per year of NOx and 54.6 tons per year of PM_{10} emissions). Approximately 35% of the total sulfur dioxide (SO_2) emissions[57] are attributed to tanker emissions while docked at the VMT.

EPA's New Source Review program requires ship emissions to be included in the air quality modeling analysis for terminals to verify NAAQS compliance. Alyeska's 1995 permit application complied with this requirement by including tanker emissions in their air modeling demonstration. Alyeska's application explains that "for purposes of the NAAQS air quality impact analysis, two tankers at berth utilizing two percent sulfur fuel plus two additional tankers simultaneously at berth utilizing one percent sulfur fuel will be assumed as realistically representative of worst case short-term ship emissions. Tankers utilizing one percent sulfur fuel will be assumed to represent annual ship emissions."[58] Limiting the fuel sulfur content to between 1-2% controls sulfur dioxide emissions and is necessary for compliance with short-term National Ambient Air Quality Standards (NAAQS) for sulfur dioxide (SO_2); therefore, it is important to continue to monitor fuel sulfur to ensure compliance with the limits set in the PSD permit.

Because of the way that the PSD air quality modeling input was structured, it is most logical to assign the fuel monitoring requirement to the VMT facility operator. The SO_2 NAAQS compliance demonstration was based on the assumption that the average annual fuel sulfur content used by all tankers while docked at the VMT at or below the 1% threshold. This standard requires the regular collection, testing and mathematical averaging of all tanker fuels to ensure that the annual average fuel sulfur content remains 1% or less. It is most logical to assign this task to the VMT operator, since they are the terminal owner/operator that holds the air quality permit requiring this SO_2 NAAQS demonstration. It is also most efficient to have a single entity carry out this task in a streamlined and consistent manner to ensure statistical accuracy and timely consolidated reporting.

Alyeska requests deletion of this requirement, but proposes no alternative method for monitoring tanker fuel sulfur. Absent Condition 25, there is no other federal or state individual tanker fuel sulfur monitoring standards that can be applied to the tanker operators. This is the case because the tanker emissions alone are not at issue. Rather, it is the combination of emissions, from the VMT and the tanker(s) docked at the VMT, which have the potential to cause a SO_2 NAAQS violation. Alyeska's proposed amendment does not ensure SO_2 NAAQS compliance, once fuel sulfur monitoring has ceased. Use of low sulfur fuel is environmentally significant and is best available control technology for ensuring SO_2 NAAQS compliance at the VMT.

Since Condition 25 was imposed by ADEC as a specific condition of an NSR permit and the validity of those conditions was not challenged by Alyeska in 1996, and the condition has been in place since that time, they are enforceable standards for the purpose of the Title V Operating Permit Program. EPA's Title V Operating Permit Program regulations at 40 CFR 70.2 define any term or condition of a NSR permit issued under a Federal or SIP-approved NSR program as being an applicable requirement. Condition 25 is not "obsolete, extraneous or environmentally insignificant" as sulfur monitoring is required to determine compliance with state and federal sulfur oxide emission standards.

[57] 920 tons per year.

[58] Alyeska Pipeline Service Company application to the Alaska Department of Environmental Conservation, "Prevention of Significant Deterioration Application for the Valdez Marine Terminal Vapor Control Project", Exhibit E, October 24, 1995.

The only logical way that this amendment could be considered would be if the request was coupled with updated ambient air quality modeling results which demonstrate that the worst case fuel sulfur used by any tanker in the PWS tanker fleet would not result in a SO_2 NAAQS violation.[59] This analysis should also technically support the use of higher sulfur fuel as an environmentally appropriate alternative to meeting the fuel monitoring requirements of Condition 25.

PWSRCAC Recommendation

PWSRCAC recommends that Condition 25 remain in place until such time that Alyeska provides updated ambient air quality modeling results, which demonstrate that the worst case fuel sulfur used by any tanker in the PWS tanker fleet would not result in a SO_2 NAAQS violation. This analysis should also technically support the use of higher sulfur fuel as an environmentally appropriate alternative to meeting the fuel monitoring requirements of Condition 25.

Alyeska's Request to Delete AQC Permit to Operate No. 9671-AA001, Condition 26

Request: *"Delete this condition in its entirety."*

Basis: *"The language in the first paragraph of the condition is obsolete due to the changes in the Department's organization and it, along with the language in the fourth paragraph, is superceded by the language of 18 AAC 50.235 and 240, promulgated January 18, 1997 and the standard conditions promulgated in April 2002. The language in the second paragraph is unnecessary, as Alyeska will report all tank-venting incidents. The requirements in the third and fifth paragraphs are obsolete since all the carbon steel vapor recovery piping subject to corrosions penetrations has been replaced with stainless steel piping and any corrosion penetrations found in the future will be handled under the Valdez Marine Terminal Leak Detection and Repair program developed pursuant to 40 CFR 63.563(c)."*

Effect of Change: *"No effect on emissions."*

Existing Condition 26 Language

"Permittee shall promptly notify the Department's Anchorage Air Quality Maintenance (AQM) Office by telephone (907) 269-7693 or by fax (907) 269-7508, within 24 hours of becoming aware of any incident, any equipment malfunction, failure or emergency shutdown, or of any change in operating conditions which could result in an increase in emissions of an air contaminant beyond limits established by this permit or regulation. This notification must include a description of the nature of the occurrence, when it occurred, its duration, the steps taken to reduce emissions, and measures take to reduce the frequency, or to avoid recurrence of the incident. A detailed written report of the incident, which included an estimate of the quantity of the excess emissions and the basis for making the estimate, must be submitted to the Department's Anchorage AQM office, 555 Cordova, Anchorage, AK 99501 within five working days after the incident.

[59] This case would assume that the tankers do not switch to low sulfur fuel at the VMT, thus, monitoring for low sulfur fuel usage would not be necessary.

For crude oil storage tank venting, the five day written reports shall also include the identification number of the tank(s) from which the venting occurred, an estimate of the total quantity of hydrocarbons released, expressed in pounds of propane, a statement of the status of waste gas being burned in the power boilers and incinerators during the venting incident, and the reason for the venting incident. For crude oil storage tank venting equal to or less than 60 seconds and releasing hydrocarbons in amount equal to or less than 50 pounds of hydrocarbons (calculated as propane), no notification or excess emission report is required. Permittee shall summarize these events in the quarterly Facility Operating Report as described in Exhibit D.

Excess emissions associated with vapor recovery piping corrosion penetrations will be reported verbally within 24 hours, and in writing within five working days as described above. Five day written reports for reporting emissions associated with vapor recovery corrosion penetrations, include: i) location of penetration, ii) the date and time of discovery, iv) the date and time of completion of repairs, ii) the start and end date and time of emissions if applicable, vi) the date and time of verbal agency notification and vii) the composition of the vapor as emitted from the penetration (i.e. system or flue gas).

Excess emissions that are verbally reported within 24 hours, and in writing within five working days do not have to be reported in the quarterly Facility Operations Report.

If a corrosion penetration repair is not completed to halt emissions caused by the corrosion penetration with five (5) of discovery, the permittee with provide a verbal status report to the Department at 907-269-7693, outlining the repair schedule. The permittee shall submit the five (5) day written report no later than five (5) day after completion of the repair. Alyeska shall state in the five (5) day report why the five (5) day report was delayed."

PWSRCAC Analysis of Proposed Change

Condition 26 requires specific notification and reporting requirements for "excess emissions" from the VMT, specifically targeting monitoring, repair, and reporting of excess emissions from the crude oil tanks and the vapor recovery system.

Similar to the analysis of Conditions 10 and 12, it is reasonable to replace Condition 26 excess emission reporting requirements with the revised and updated state excess emission reporting requirements for all sources of emissions at the VMT. [60]

However, Aleyska has not provided a compelling argument to exempt equipment that is subject to the Marine Vessel Loading Rule, Subpart Y, from the state excess emission reporting requirement. Alyeska cites the requirements of 40 CFR 63.563(c) as being sufficient for excess emission reporting for the vapor recovery system; however, §63.563(c) does not contain any excess emission reporting requirements.[61]

[60] 18 AAC 50.235. Unavoidable Emergencies and Malfunctions and 18 AAC 50.240. Excess Emissions.

[61] 40 CFR 63.562(e) reads as follows:"Operation and maintenance requirements for air pollution control equipment and monitoring equipment for affected sources. At all times, including periods of startup, shutdown, and malfunction, owners or operators of affected sources shall operate and maintain a source, including associated air pollution control equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether acceptable operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source."

PWSRCAC Recommendation

PWSRCAC's review indicates that Alyeska's recommendation to replace Condition 26 with the revised and updated state excess emission reporting requirements of 18 AAC 50.235 and 18 AAC 50.240 would not result in any adverse emission impacts. However, it appears that state regulations would not allow an exemption for vapor recovery emission exceedances reporting.

Alyeska's Request to Delete AQC Permit to Operate No. 9671-AA001, Condition 27

Request: *"Delete this condition in its entirety."*

Basis: *Alyeska Letter No. 02-1830 states that: "This is simply a reporting requirement attached to conditions 14 and 15."*

Effect of Change: *"No effect on emissions."*

Existing Condition 27 Language

"Permittee shall promptly notify the Department by telephone (907) 269-7693 or by fax (907) 269-7508 within 24 hours if visible emissions from any marine vessel berthed at the facility result in violation of opacity standards specified in 18 AAC 50.100. Permittee shall submit a written report to the Department's Anchorage AQM office, 555 Cordova, Anchorage, AK 99501 within five working days of the incident."

PWSRCAC Analysis of Proposed Change

Condition 27 requires Alyeska to report tanker opacity violations identified in accordance with Conditions 14 and 15. Since PWSRCAC has recommended that Conditions 14 and 15 remain in place to ensure that VMT loading and unloading operations are conducted in compliance with the state opacity standards, it is also logical for PWSRCAC to recommend retaining the associated reporting requirement of Condition 27.

PWSRCAC Recommendation

PWSRCAC recommends that Condition 27 remain in place until such time that Alyeska presents a compelling argument for deleting Conditions 14 and 15 and it's associate reporting standard found in Condition 27.

Alyeska's Request to Modify AQC Permit to Operate No. 9671-AA001, Exhibit B

Request: *"Delete following emission limits:*[62]

[62] September 24, 2002 Alyeska PSD Amendment Request.

- *8400 hours per year operating limit for the solid waste incinerator (source no. 7);*
- *850 minutes venting limit for the crude oil storage tanks (source nos. 17-34);*
- *312 hours per year operating limit for the emergency generators (source nos. 8 and 9); and*
- *156 hours per year operating limit for the older fire pumps (source nos. 12-16)."*

"Delete, 3846 gallons/hour for all boilers, hourly maximum, in Section A for the Power Boilers:[63]

"Delete, 10% opacity, not to be exceeded for more than three minutes in any one hour[64]*:*

Basis: *"The 8400-hour limit was imposed as an operating [limit] arbitrarily after the department made an information request concerning equipment operations and, as such, is baseless. Permit flexibility to operate an additional 360 to 384 hours per year will have a negligible if any impact on air quality do this 'enforceable' limit should be removed.*

For a discussion of the 850-minute venting limit, please see our request under item 1.

The 312 and 156 hours per year operating limits for the emergency generators and fire pumps, respectively, are arbitrarily imposed as this equipment was installed prior to 1980. There is no air quality management benefit for having the limits and, as such, the limits simply cause an unnecessary record keeping burden.

The 3836 gal/hr limit is equivalent to 500 MMBtu/hr based on 130,000 Btu/gal fuel. Historically there is no indication that the Department intended to impose an instantaneous fuel usage limit. An enforceable limit of 500MMBtu/hr, based on a monthly average is a sufficient operational limit for the boilers. AQCP 8924-AA008, Nov. 30, 1989 included an operational limit of two boilers operating at any one time. A single boiler's rated capacity is 250 MMBtu/hr. The next permit issued, AQCP 9024-AA006, November 30, 1990 placed a limit of 1923 gal/hr/boiler. It included a footnote detailing how 1923 gal/hr is derived from the 250 MMBtu/hr boiler capacity. The boilers are original equipment that have not been modified. There was no regulatory basis for imposing the operational limit.

[In reference to the incinerator opacity limits for sources No. 4-6, Alyeska writes]: The 10% limit was first proposed in the ADEC Preliminary Technical Analysis Report as part of the Tanker Vapor Recovery PSD application process. The report stated, 'Further the Department is imposing a ten percent opacity standard for the waste gas incinerator as a surrogate measure to ensure that incinerators comply with the particulate matter standard.' In Letter No. 96-3701-G, March 20, 1996, Alyeska requested the limit to be changed to 20%. April 3, 1996 ADEC reply states, 'The ten percent opacity limit has been established by the Department as a Best Available Control Technology limit for particulate matter. The Department

[63] October 7, 1997 Alyeska PSD Amendment Request.
[64] October 7, 1997 Alyeska PSD Amendment Request.

has imposed this surrogate measure to allow for a periodic compliance check for the particulate matter BACT assessment without the cost associated with particulate matter emission testing.' There is no regulatory basis by which the Department may establish 'surrogate' measures when a BACT has been performed. The Department erred imposing BACT, the PSD application analysis concluded PM10 removal is not technically feasible. In the PSD application and the Department's technical evaluation, it was concluded that visibility standards will be easily met."

Effect of Change: *"No effect on emissions."*

Existing Exhibit B Language (section relevant to this request)

Parameter and source ID	***Emission Limit, Standard, Fuel Specification or Operating Limit***
Source No. 7 *Solid Waste Incinerator*	*8400 hours[65] per year (enforceable limit)*
Source No. 8, 9 *Emergency Generators*	*312 hours[66] per year per generator (enforceable limit) for routine testing and maintenance*
Source No. 10-16 *Firewater Diesel Pump Drivers*	*156 hours[67] per year per firepump (enforceable limit) for routine testing and maintenance*
Source No. 17-34 *Crude Oil Storage Tanks*	*850 minutes[68] venting in any 12 consecutive months (enforceable limit) excluding venting due to scheduled maintenance of the tanks and the vapor recovery system, equipment malfunctions and operational upsets.*
Sources No. 1-3 *Power Boilers*	*3,846 gallons/hour[69] for all boilers, hourly maximum. 500 MMBtu/hour, maximum monthly average for all three units.*
Source No. 4-6 *Fuel Burning Sources*	*10% opacity[70], not to be exceeded for more than three minutes in any one hour.*

PWSRCAC Analysis of Proposed Change

Exhibit B imposes an enforceable limit of 8,400 hours per year on the solid waste gas incinerator, 312 hours per year on the emergency generators, and 156 hours on the firewater pump drivers, and imposes a fuel limit of 3,836 gallons per hour on the power boilers. Alyeska states that the operating hour limits were set arbitrarily and should be removed, so that Alyeska has the flexibility to operate the equipment year-round (up to 8,760 hours per

[65] Permit specifically footnotes this as an enforceable limit.
[66] Permit specifically footnotes this as an enforceable limit.
[67] Permit specifically footnotes this as an enforceable limit.
[68] Permit specifically footnotes this as an enforceable limit.
[69] Permit specifically footnotes this as an enforceable limit.
[70] Permit specifically footnotes the 10% opacity limit as an enforceable limit, effective after the initial startup of the Tanker Vapor Collection System.

year). Alyeska also states that the Department did not intend to impose the instantaneous fuel limit of 3,836 gallons per hour on the power boilers. Alyeska's proposed amendment does not provide a logical explanation of why Alyeska is requesting the removal of these requirements, which were self-imposed, accepted, and implemented unchallenged since 1996.

According Appendix E of the 1995 PSD permit application, Alyeska self imposed these operating hour and fuel limits. Alyeska used the operating hour and fuel usage limitations as input parameters for the 1995 VMT air model. Based on that model input, Alyeska successfully demonstrated that the National Ambient Air Quality Standards (NAAQS) could be met, and the 1995 VMT air permit was approved based on that demonstration. Alyeska certainly could have run the VMT air model with a higher number of operating hours and higher fuel usage, to test whether or not a NAAQS compliance could continue to be achieved; however, Alyeska did not choose to make this demonstration in 1995. Since the NAAQS demonstration was based on a restricted number of operating hours, they became enforceable limits in the final 1996 PSD permit.

To remove these enforceable emission limits, Alyeska would need to provide ADEC with a revised air quality model estimate for the VMT that shows NAAQS compliance with each of these sources running at a maximum potential to emit for year-round operations and higher fuel usage rates. It is not clear why Alyeska's amendment request was not coupled with a revised air quality model demonstration, since this is clearly required by state and federal law for an amendment of this nature. During a recent meeting with Alyeska, they acknowledged that an amendment request to increase the number of operating hours, and correspondingly the total potential to emit, would require and updated air quality model demonstration, which was not provided in the amendment application. Alyeska indicated that the request to increase operating hours would be retracted[71].

ADEC established a maximum monthly average of 500 MMBtu/hour Higher Heating Value (HHV) for all three power boiler units and an hourly maximum fuel limit of 3,846 gal/hr in the 1996 VMT PSD permit. These limits were set to ensure compliance with both annual and short-term emission limits. Alyeska states that the 500 MMBtu/hour limit is valid, but the 3,846 gal/hr is not; however, Alyeska provides no explanation of how they will ensure compliance with the short-term emission limits once the 3,846 gal/hr limit is removed. Alyeska does not provide any technical data that would indicate that they are having difficulty meeting the 3,846 gal/hr limitation, or that monitoring this limitation is an unreasonable burden.

The 500 MMBtu/hour limit essentially restricted boiler operation to only 2 of the three boilers at a time, since each boiler is rated at a maximum throughput capacity of 250 MMBtu/hr (HHV). Correspondingly, the instantaneous fuel consumption rate of 3,846 gal/hour[72] seems to be based on the operation of two 250 MMBtu/gal boilers in simultaneous operation, burning fuel with an average heating value 130,000 Btu/gal (HHV). Alyeska's permit application seems to be based on a slightly lower heating value for the fuel of 126,600 Btu/gal[73], resulting in an estimated hourly fuel consumption of 3,949 gal/hr[74]. ADEC's permit

[71] Alyeska (Thomas), 11-21-02 meeting with PWSRCAC (Kuckertz) and Environmental Solutions (Harvey), and subsequent e-mail correspondence dated 11-27-02.

[72] ((250MMBtu/hr)*2)/130Mbtu/gal = 3846gal/hr.

[73] The 1995 PSD Application was based on a fuel analysis of 126,600 Btu/gal (HHV) and 118,900 Btu/gal (LHV). Thus, the HHV/LHV ratio = 126,600/118,900 = 1.065. Earlier permits seem to have been based on a higher heating value fuel of 130,000 Btu/hr (HHV). For the purpose of the PSD permit application, power boiler rated capacities

decision does not explain why a lower fuel consumption rate of 3,846 gal/hour was ultimately imposed in the 1996 PSD permit. During a recent meeting with Alyeska, they indicated a desire to retract this amendment request.

For the purposes of Title V compliance monitoring, it would seem that the fuel limit (in gallons/hour) would be an easier limit to monitor and demonstrate compliance with short-term emission limits, than keeping a running monthly average of boiler use in MMBtu/hr. Therefore, removing the fuel consumption limit does not seem to be warranted. However, it does seem reasonable to adjust the number of gallons per hour limit based on more accurate heating value information.[75] During the Title V permitting process, ADEC and Alyeska could certainly review the current Alyeska fuel specifications to determine the correct heating value and the correct gal/hr limit based on that heating value. Then, the accurate fuel limit could be set as an enforceable standard to ensure compliance with both annual and short-term emission limits.

Exhibit B provides an allowance of 850 minutes venting in any 12 consecutive months for the crude oil storage tanks. As explained above in the analysis of Condition 12, Alyeska plans to report all excess emissions, and does not plan to make use of this 850-minute excess emission allowance. Alyeska's proposal voluntarily reduces the 850-minute excess emission allowance to zero, agreeing to report all emissions, rather than just those that exceed the allowance. Alyeska's proposal reduces ADEC's administrative burden and results in no adverse air quality impact. Alyeska also points out that this requirement is redundant with the standard reporting requirements for excess emissions in 18 AAC 50.235 and 18 AAC 50.240. This request simplifies the reporting requirements for Alyeska, as all excess emissions are reported.

Exhibit B imposed a 10% opacity limit for the three waste gas incinerators (Sources No. 4-6). In Section 4.3.3 "Final BACT Determination for Particulate Matter" of its Final Technical Analysis Document[76], ADEC concludes:

> *"The Department concurs that no emission controls constitute BACT for the waste gas incinerator operating with permitted fuel specifications. The Department is imposing a particulate matter standard of 15 pounds per hour for each unit to protect ambient standards and increments. Particulate matter testing will be required for each waste gas incinerator once each two years. Further, the Department is imposing a ten percent opacity standard for the waste gas incinerators as a surrogate measure to ensure the incinerators comply with the particulate matter standard. As proposed in the VMT permit, the permittee will be required to conduct surveillance on each operating unit once each month, and provide copies of surveillance to the Department."*

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were converted to Lower Heating Value (LHV) using the HHV/LHV ratio of 1.065 for typical fuel burned in these units. The 500 MMBtu/hour (HHV) was then adjusted to 470 MMBtu/hour (LHV) for use in the emission calculations using the 1.065 ratio. According the 1995 PSD permit application, the maximum short-term emission limits for power boilers and the maximum annual potential to emit for power boilers were both computed using a Lower Heating Value (LHV) of 118,900 Btu/gal and fuel usage rate of 470MMBtu/hr (LHV) in the power boilers, which equates to 3,953 gal/hr. Or equivalently, using a Higher Heating Value (HHV) of 126,600 Btu/gal and fuel usage rate of 500MMBtu/hr (HHV) in the power boilers, equates to 3,949 gal/hr. This number is only slightly different than 3953 gal/hr; the slight difference is due to rounding errors. This fuel limit is close to the 3,846 gal/hour fuel limit in the final 1996 PSD permit, but is not exactly the same. The difference appears to be attributed to ADEC's use of a slightly higher heating value fuel (130,000 Btu/gal vs. Alyeska's estimate of 126,600 Btu/gal).

[74] ((250MMBtu/hr)*2)/126.6Mbtu/gal = 3949gal/hr.

[75] Potentially the limit should be 3949 gal/hr vs. 3846 gal/hour, if the fuel quality has changed.

[76] ADEC Final Technical Analysis Document, Valdez Marine Terminal Vapor Control Project, April 3, 1996, Section 4.3.3. Please note Alyeska incorrectly labeled the April 3, 1996 as a preliminary finding.

Thus, the final 1996 PSD permit was issued with a 10% opacity monitoring requirement to ensure compliance with the particulate matter standard of 15 pounds per hour for each unit. Of note, the 15 pounds per hour particulate matter standard (PM_{10}) is not listed in the permit; rather only, a 10% opacity limit is imposed to meet that standard. ADEC offered Alyeska a cost effective monitoring technique to ensure continual compliance. Alyeska's request is confusing, as removal of the 10% opacity monitoring standard would clearly require ADEC to re-impose the 15 pounds per hour standard for each unit to ensure PM_{10} compliance. ADEC would also be required to impose other, more complex and costly continuous monitoring approaches to replace the 10% opacity monitoring standard. During a recent meeting with Alyeska, they indicated a desire to retract this amendment request.

PWSRCAC Recommendation

Alyeska's proposed elimination of enforceable operating hour limits for the solid waste gas incinerator, emergency generators, and the firewater pump drivers may warrant consideration if Alyeska provides ADEC with the supporting technical analysis to show that year-round operation of these sources will not cause or contribute to a violation of NAAQS at the VMT. That technical analysis was not provided with the proposed amendment application, and therefore PWSRCAC recommends that these enforceable operating hours limits remain in place until it can be shown that higher potential emissions at the facility comply with NAAQS. This may be a moot issue, since Alyeska has indicated a desire to retract the operating hour request.

PWSRCAC recommends that ADEC accept Alyeska's proposed amendment to eliminate the 850-minute excess emission allowance and require all excess emissions to be reported in accordance with the procedures and requirements of 18 AAC 50.235 and 18 AAC 50.240. This request streamlines the reporting requirements, makes them more stringent, and has no adverse affect on actual emissions.

PWSRCAC recommends that the fuel limit of 3,846 gal/hr be retained on the power boilers to ensure compliance with the short-term emission limits for the VMT. This may be a moot issue, since Alyeska has indicated a desire to retract this amendment.

The 10% opacity monitoring requirement for the waste gas incinerators should remain in place to ensure compliance with the particulate matter standard of 15 pounds per hour for each unit. Alyeska has not provided a compelling technical or regulatory for deletion of this requirement. This may be a moot issue, since Alyeska has indicated a desire to retract this amendment.

Alyeska's Request to Modify AQC Permit to Operate No. 9671-AA001, Exhibit C

Request: *"Delete all the contents of the exhibit and replace it with the following language:*

Permittee shall operate and maintain, in accordance with good air pollution control practices and in a manner that ensures reasonable accuracy, instruments to measure the following emission and process parameters:

- *liquid fuel consumption (volume per unit time) in the power boilers (sources no. 1-3)*
- *waste gas consumption (volume per unit time) in the power boilers (sources nos. 1-3)*
- *heat content of waste gas routed to the power boilers (source nos. 1-3)*
- *pressure sensors for each crude oil storage tank (source nos. 17-34)*

Permittee shall, for fuel oil to be combusted in stationary equipment identified in Exhibit A of this permit, either analyze the fuel for sulfur content using an appropriate ASTM method or obtain an analysis of the sulfur content from the vendor for each fuel delivery.

Basis: *"Exhibit C, as written, is overly restrictive for no regulatory purpose and with no regulatory basis. The language we are requesting will allow us to use the best available industry instrumentation and practices."*

Effect of Change: *"No effect on emissions."*

Existing Exhibit C Language

"Continuous Emission and Process Monitoring Requirements

Permittee shall install, calibrate, operate, and maintain air contaminant emissions and monitoring equipment on the sources as described below and in the permit application document, manufacturer's procedures or other written documentation submitted to the Department by the permittee. Instrument siting and operation and maintenance procedures must be approved by the Department and conform to the applicable sections of 18 AAC 50.520(a), 40 CFR Part 60, Appendices B and F, and 40 CFR 63.7 (c)(6).

An alternate emission monitoring plan (AMP) may be proposed for approval by the Section Chief for Air Quality Maintenance Section, in Juneau if it can be shown to accurately ensure continuous compliance with the emission limits and permit conditions.

Source	***Parameter***	***Monitoring Requirements***
Power Boilers	*Fuel Consumption*	*Permittee shall operate and maintain in good working order a system for recording and continuous monitoring of the total amount of liquid fuel and the waste gas consumption for all power boilers. Permittee may use the heat content described in the Waste Gas Incinerator section of this exhibit to characterize the waste gas burned in the power boilers.*
Power Boilers	*Distillate fuel sulfur content*	*Permittee shall analyze on a quarterly basis the sulfur content of the fuel oil contained in Sources 45 and 46 (52-TK-2A and 2B, i.e. Alyeska tank Nos. 53 and 54) using the procedures described in ASTM Method D 4294-90 or other comparable ASTM approved method or provide the vendor's analysis of fuel sulfur for each batch covering several shipments, provided the analysis is performed using the above methods.*
Power Boilers	*Opacity*	*Permittee shall operate and maintain in good working order a system for recording and continuous monitoring of the opacity for each unit.*
Waste Gas	*Auxiliary*	*Permittee shall operate and maintain in good working order a system for recording*

Incinerators	*fuel/waste gas*	*and continuous monitoring of the total amount of auxiliary fuel and the total amount of waste gas burned in the three incinerators.*
Waste Gas Incinerators	*Waste Gas Heat*	*Permittee shall continuously monitor the heat content of the waste gas using an on-line calorimeter. The instantaneous reading will be available to vapor recovery system operators at all times. The system shall be calibrated once per quarter according to an established written procedure.*
Crude Oil Storage tanks	*Tank pressure*	*Permittee shall operate and maintain in good working order a system for recording and continuous monitoring of the pressures for each crude oil storage tank. Permittee shall perform and document annual verification of condition, and operability of all crude tank pressure recorders/controllers.*

Part II – Parameters to be recorded during Waste Gas Incinerator Source Testing

The following parameters must be recorded during any of the source tests on the Waste Gas Incinerators required by this permit:

1) *Liquid fuel feed rate (gal/hr)*
2) *Waste gas feed rate (scf/hr)*
3) *Waste Gas heat content (Btu/scf)*
4) *Exhaust gas temperature*
5) *Combustion Air Flow*
6) *Inlet and Outlet VOC concentration (if measurement required by 40 CFR 63)"*

PWSRCAC Analysis of Proposed Change

Exhibit C sets specific requirements for Alyeska to install, calibrate, operate and maintain emission and monitoring equipment in accordance with manufacturers recommended procedures, and in compliance with EPA standards. Alternatively, ADEC provided Alyeska with the option to submit an Alternate Emission Monitoring Plan (AMP). Alyeska's proposed revisions to the first two sections of Exhibit C are sweeping, as shown in the redlined version below.

Permittee shall ~~install, calibrate~~, operate~~,~~ and maintain, in accordance with good air pollution control practices and in a manner that ensures reasonable accuracy, instruments to measure the following emission and process parameters. ~~air contaminant emissions and monitoring equipment on the sources as described below and in the permit application document, manufacturer's procedures or other written documentation submitted to the Department by the permittee. Instrument siting and operation and maintenance procedures must be approved by the Department and conform to the applicable sections of 18 AAC 50.520(a), 40 CFR Part 60, Appendices B and F, and 40 CFR 63.7 (c)(6).~~

~~An alternate emission monitoring plan (AMP) may be proposed for approval by the Section Chief for Air Quality Maintenance Section, in Juneau if it can be shown to accurately ensure continuous compliance with the emission limits and permit conditions.~~

Alyeska removes the specific standards for installation, calibration, operation, and maintenance and replaces them with much more generic "good air pollution control practices," which are intended to only achieve "reasonable accuracy." Alyeska provides no

technical or legal basis for this replacement language, and provides no quantitative measures for "reasonable" accuracy.

Alyeska's proposed revisions to the Exhibit C Table are also sweeping, as shown in the redlined version below.

Source	***Parameter***	***Monitoring Requirements***
Power Boilers	*Fuel Consumption*	*Liquid fuel consumption (volume per unit time) Heat content of waste gas routed to the power boilers. ~~Permittee shall operate and maintain in good working order a system for recording and continuous monitoring of the total amount of liquid fuel and the waste gas consumption for all power boilers. Permittee may use the heat content described in the Waste Gas Incinerator section of this exhibit to characterize the waste gas burned in the power boilers.~~*
Power Boilers	*Distillate fuel sulfur content*	*Permittee shall, for fuel oil to be combusted in stationary equipment identified in Exhibit A of this permit, either analyze the fuel for sulfur content using an appropriate ASTM method or obtain an analysis of the sulfur content from the vendor for each fuel delivery. ~~Permittee shall analyze on a quarterly basis the sulfur content of the fuel oil contained in Sources 45 and 46 (52-TK-2A and 2B, i.e. Alyeska tank Nos. 53 and 54) using the procedures described in ASTM Method D 4294-90 or other comparable ASTM approved method or provide the vendor's analysis of fuel sulfur for each batch covering several shipments, provided the analysis is performed using the above methods.~~*
~~*Power Boilers*~~	~~*Opacity*~~	~~*Permittee shall operate and maintain in good working order a system for recording and continuous monitoring of the opacity for each unit.*~~
~~*Waste Gas Incinerators*~~	~~*Auxiliary fuel/waste gas*~~	~~*Permittee shall operate and maintain in good working order a system for recording and continuous monitoring of the total amount of auxiliary fuel and the total amount of waste gas burned in the three incinerators.*~~
~~*Waste Gas Incinerators*~~	~~*Waste Gas Heat*~~	~~*Permittee shall continuously monitor the heat content of the waste gas using an on-line calorimeter. The instantaneous reading will be available to vapor recovery system operators at all times. The system shall be calibrated once per quarter according to an established written procedure.*~~
Crude Oil Storage tanks	*Tank pressure*	*Pressure sensors for each crude oil storage tank. ~~Permittee shall operate and maintain in good working order a system for recording and continuous monitoring of the pressures for each crude oil storage tank. Permittee shall perform and document annual verification of condition, and operability of all crude tank pressure recorders/controllers.~~*

The Exhibit C table imposes fuel consumption, fuel sulfur, heat content, and opacity monitoring requirements on the power boilers; auxiliary fuel/waste gas consumption, and waste gas heat content monitoring requirements on the waste gas incinerators; and also imposes pressure monitoring requirements on the crude oil storage tanks. Exhibit C also establishes parameters to be recorded during any waste gas incinerator source testing conducted at the facility.

Alyeska's amendment request proposes substantially modified language for Exhibit C and also proposes to:

1. Eliminate the opacity monitoring requirements on the power boilers;
2. Eliminate the frequency for fuel sulfur monitoring;
3. Remove all monitoring requirements for the waste gas incinerators; and
4. Remove the waste gas incinerator source testing record keeping requirements.

Alyeska states that these requirements are overly restrictive, serve no regulatory purpose, and have no regulatory basis.

With respect to Alyeska's first Exhibit C Table amendment, the opacity monitoring requirements for the power boilers have been addressed above in Condition 23. It appears that there is sufficient regulatory basis for the opacity monitoring requirement.

With respect to Alyeska's second Exhibit C Table amendment, Alyeska provides no basis for removing the fuel sulfur monitoring frequency. Exhibit C requires quarterly monitoring, while Alyeska's proposed amendment does not specify a frequency. Fuel sulfur monitoring ensures compliance with the sulfur dioxide emissions standards.

With respect to Alyeska's third and fourth Exhibit C Table amendments, Alyeska's 1995 PSD application was based on emission estimates for the waste gas incinerators that were developed using specific fuel heating and fuel consumption values. The monitoring requirements imposed in Exhibit C of the PSD permit directly correlate to monitoring the input parameters used for the worst-case emission estimate for the incinerators. This worst-case emission scenario was then used to demonstrate compliance with NAAQS and the PSD increments. Exhibit C states that that the purpose of these monitoring requirements is to ensure continuous compliance with the emission limits and permit conditions in the PSD permit. It appears that there is a clear regulatory basis for the requirements of Exhibit C, since they directly originate from a New Source Review process. Alyeska's request does not explain how they will ensure continuous compliance with the emission limits and permit conditions in the PSD permit without monitoring these parameters.

Alyeska's recommended amendment also seems to be internally inconsistent. While Alyeska proposes to retain the fuel consumption, fuel sulfur, and heat content on the power boilers, it proposes to delete the auxiliary fuel/waste gas consumption and waste gas heat content monitoring requirements on the waste gas incinerators. Alyeska does not explain why they believe there is sufficient regulatory basis for the power boiler fuel monitoring requirements and not for the waste gas incinerators.

Alyeska's last amendment to Exhibit C recommends deletion of waste gas incinerator source testing record keeping requirements. Alyeska's earlier comments on Condition 16 requested deletion of the waste gas incinerator source tests, since these tests have been completed and because the specific requirements of Condition 16 are now obsolete. Since EPA has concluded that obsolete conditions do not need to be included in the Title V Operating Permit as an applicable requirement, this request seems reasonable and logical. The Exhibit C record keeping requirements for the 1998 waste gas incinerator source testing are specifically referenced in Exhibit C and therefore are correspondingly obsolete.

PWSRCAC Recommendation

It appears that there is sufficient regulatory basis for all continuous emission and process monitoring requirements of Exhibit C, with the exception of the waste gas incinerator source testing record keeping requirements. These monitoring requirements will ensure compliance with the emission limits. PWSRCAC recommends that Exhibit C be retained and that only the requirements of "Part II – Parameters to be recorded during Waste Gas Incinerator Source Testing" be deleted and replaced with standard a standard EPA Test Method, and associated record keeping requirements for incinerators.

Exhibit C currently contains language that allows Alyeska to propose an Alternate Emission Monitoring plan (AMP) for ADEC approval, if "it can be shown to accurately ensure continuous compliance with the emission limits and permit conditions." Alyeska's proposed amendment may warrant consideration if Alyeska provides ADEC with an AMP that more efficiently meets the Exhibit C requirements.

Alyeska's Request to Modify AQC Permit to Operate No. 9671-AA001, Exhibit D

Request: *"Modify item10 of exhibit D to state, 'The signature of the permittee's authorized agent preceded by the statement: 'I certify that I am familiar with the information contained in this report, and that to the best of my knowledge and belief such information is true, complete and accurate."*

Basis: *"There is no regulatory requirement for a notarized signature and it is especially burdensome for Alyeska Pipeline Service Company to locate one each time a report must be submitted."*

Effect of Change: *"No effect on emissions."*

Existing Exhibit D Language (section relevant to this request)

"10. The notarized signature of the permittee's authorized agent preceded by the statement: 'I certify that I am familiar with the information contained in this report, and that to the best of my knowledge and belief such information is true, complete and accurate'."

PWSRCAC Analysis of Proposed Change

Requirement 10 of Exhibit B requires that all Facility Operating Reports be notarized prior to submittal to ADEC. Alyeska's amendment requests relief from the notary requirement, reasoning that there is no regulatory requirement for a notarized signature.

Alaska regulations at 18 AAC 50.345 (j) requires all reports, compliance certifications, or other documents to be notarized[77].

[77]18 AAC 50. 345(j). "The permittee shall certify all reports, compliance certifications, or other documents submitted to the department and required under the permit by including the signature of a responsible official for the permitted facility following the statement: "Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete." Excess emission reports must be certified either upon submittal or with an operating report required for the same

PWSRCAC Recommendation

Alaska regulations at 18 AAC 50.345 (j) requires all reports, compliance certifications, or other documents to be notarized.

Alyeska's Request to Modify AQC Permit to Operate No. 0071-AC005, Conditions 1 and 2

Request: *"Delete these conditions in their entirety."*

Basis: *"Alyeska is requesting that permit numbers 9671-AA001 and 0071-AC005 be combined into a single document. This action, along with the issuance of the operating permit will render these conditions obsolete."*

Effect of Change: *"No effect on emissions."*

Existing Condition 1 Language

"Except as revised or rescinded herein, or as superceded by an Air Quality Permit issued under As46.14.170, the Permittee shall comply with terms and conditions of the Air Quality Control Permit to Operate No. 9671-AA001 as of June 7, 1996."

Existing Condition 1 and 2 Language

"If permit terms and conditions listed in this permit conflict with those of Permit No. 9671-AA001, the Permittee shall comply with terms and conditions listed herein."

PWSRCAC Analysis of Proposed Change

Conditions 1 and 2 clarify the relationship between the two existing VMT air quality permits 9671-AA001 and 0071-AC005. Eventually, the requirements of these two permits will be combined into a single Title V Operating Permit for the VMT; thus, Conditions 1 and 2 will become obsolete.

Alyeska's request assumes that ADEC will complete a two-step[78] construction permit hygiene amendment and Title V review process; however, ADEC has indicated that they will be conducting a one-step process. Thus, when the Title V permit is issued, these terms should be removed since they will then be obsolete.

PWSRCAC Recommendation

Conditions 1 and 2 will be obsolete when the final VMT Title V Operating Permit is issued; therefore, removal will have no impact on emissions.

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reporting period. All other reports and other documents must be certified upon submittal. When certifying a compliance certification, the official's signature must be notarized."

[78] Conduct a construction permit amendment review and approval process and then conduct a second Title V permit amendment review and approval process.

Alyeska's Request to Modify AQC Permit to Operate No. 0071-AC005, Conditions 16.1.2

Request: *"Modify item 16.1.2 to state, 'Certify the EER in accordance with 18 AAC 50.205 by attaching to the periodic Facility Operating Report (FOR) required by both Condition G.29 and Exhibit D of Permit No. 9671-AA001, a copy of the EER with the certification statement and signature of the responsible official."*

Basis: *"There is no regulatory requirement for a notarized signature and it is especially burdensome for Alyeska Pipeline Service Company to locate one each time a report must be submitted."*

Effect of Change: *"No effect on emissions."*

Existing Condition 16.1.2 Language

"Certify the EER in accordance with 18 AAC 50.205 by attaching to the periodic Facility Operating Report (FOR) required by both Condition G.29 and Exhibit D of Permit No. 9671-AA001, a copy of the EER with the certification statement and notarized signature of the responsible official."

PWSRCAC Analysis of Proposed Change

Alaska regulations at 18 AAC 50.345 (j) requires all reports, compliance certifications, or other documents to be notarized.

PWSRCAC Recommendation

Alaska regulations at 18 AAC 50.345 (j) requires all reports to be notarized.

Alyeska's Request to Modify AQC Permit to Operate No. 0071-AC005, Conditions 17.1, 17.2, 17.3, 17.4

Request: *"Delete these conditions in their entirety and replace with the following language.*

The permittee is authorized to install the following Tank Bottom Processing (TBP) System and its components at the VMT:

Sources 1-4 Four (4) distillate fuel oil-fired boilers as follows:

a. *The combined capacity of all four boilers is no more than 450 horsepower;*
b. *No single boiler is an affected facility under 40 CFR Subpart Dc; and*
c. *The boilers may combust propane, No.1, or No. 2 fuel oil only.*
d. *These boilers may be used for tasks other than the TBP process.*

Sources 5-6 Two (2) mixing tanks with a centrifuge and an effluent tank with the following limitations:

a. No tank shall have a capacity greater than 500 barrels; and

b. The emissions from each tank and centrifuge shall be collected by a vapor recovery system and reduced by a combustion device.

Source 7 Stream dryer or thermal desorption unit with the following limitations:

a. Neither shall have a design throughput capacity exceeding 1,500 barrels per day (bbl/day); and

b. The emissions from the steam dryer and thermal desorption until shall be collected by a vapor recovery system and reduced by a combustion device.

Source 8 Containers (of various makes) for storage of recovered solids and additives and conveying equipment

Sources 9-12 Four (4) internal combustion engines each with up to 460 cubic inch displacement as follows:

a. These engines are used to reduce the collected vapors from the process tank, centrifuge, dryer, and/or desorption

b. These engines may be replaced with a different type of air pollution device so long as such replacement causes no increase in emissions above what this permit allows and so long as notice is given to the department under 18 AAC 50.365."

Basis: *"These conditions, if changed as proposed, will afford Alyeska more operational flexibility while not sacrificing any of the emission limitations, monitoring, or control required by the original permit:*

Effect of Change: *"No effect on emissions."*

Existing Condition 17.1 Language

17 " The Permittee is authorized to install the following Tank Bottom Processing (TBP) System and its components at the VMT:

17.1 Fuel Burning Equipment

Source #	*Model*	*Rate Capacity*	*Design Throughput*
Source 1	*Kewanee Model KF50-AA62-GO*	*150 HP*	*45 gph*
Source 2	*Cleaver Brooks Model PSMA 100-50*	*50 HP*	*15 gph*
Source 3	*ABCO Model C4-OB*	*150 HP*	*45 gph*
Source 4	*Clayton E-100*	*100 HP*	*30 gph*
Source 8	*Ford LSG-875 2 Ford Catalytic Converters Model 55212*	*193 HP*	*74 lbs.fuel/hr*
Source 9	*Ford LSG-875 2 Ford Catalytic Converters Model 55212*	*193 HP*	*74 lbs.fuel/hr*
Source 10	*Ford LSG-875 2 Ford Catalytic Converters Model 55212*	*193 HP*	*74 lbs.fuel/hr*
Source 11	*Ford LSG-875 2 Ford Catalytic Converters Model 55212*	*193 HP*	*74 lbs.fuel/hr*

17.2. One mixing tank and centrifuge system, custom made, designated Source 6, with rated capacity of 500 barrels (BBL) and design throughput capacity of 1500 BBL per day;

17.3. One settling tank, custom made, designated Source 5, with rated capacity of 238 BBL and design throughput capacity of 1500 BBL/day; and

17.4. Containers, various makes, and a conveyor, designated Source 7, in which to store solids separated from the oil and water mixture, each with rated capacity of 20 cubic yards."

PWSRCAC Analysis of Proposed Change

Condition 17 provides a clear, detailed listing of the Tank Bottom Processing (TBP) system fuel burning equipment, by source number, model number, rated capacity, and design throughput. Alyeska states that the existing language does not afford sufficient operational flexibility and provides alternative language to eliminate specific model names and numbers for the fuel burning equipment and its associated emission control units.

Condition 17.1 currently lists the source number, specific model names and numbers, rated capacity, and design throughput for each piece of fuel burning equipment. Air quality permitting regulations for both construction and operating permits require specific, detailed information to be submitted to identify and describe the emission inventory for that source.[79] Generalizing emission source information is typically avoided as it causes emission inventory, inspection verification, and compliance confusion. Air permits are required to describe each piece of equipment in sufficient detail such that an inspector can locate that piece of equipment at the facility, locate any vendor-specific emission information applicable to that specific emission source, and attach specific permit requirements to specific pieces of equipment. A specific emission inventory is particularly important for permits, like this one, in which the operator voluntarily accepts numerous emission limitations to avoid project classification as a major emitting modification at the VMT (PSD Avoidance).[80]

Alyeska proposes grouping Sources 1-4 into a single category called "distallate fuel oil-fired boilers," eliminating the specific model names and numbers. This request is confusing, since the condition already provides the flexibility that Alyeska requests in Conditions 17.5;[81] this condition allows the permittee to replace Sources 1-4 listed in Condition 17.1 with similar distillate fuel oil-fired boilers. The amendment also requests the ability to use these boilers for other tasks besides the TBP process. The current permit language does not appear to prohibit the use of Sources 1-4 as long as they are operated according to the enforceable emission limits, monitoring and record keeping requirements set out in the permit. Condition 23 specifically allows Sources 1-4 to be used for tasks other than the TBP process, as long as the operation of each boiler unit is limited to no greater than 4,368 hours per 12-month consecutive period.

Condition 17.2 currently provides emission source inventory information for Source 6, which is described as one mixing tank and centrifuge system with a rated capacity of 500 barrels and a design throughput capacity of 1,500 barrels per day. Alyeska proposed to modify this condition to include two mixing tanks and centrifuge systems with a rated capacity of 500 barrels and a design throughput capacity of 1,500 barrels per day. Alyeska provides no emission estimates or technical justification for the additional tank.

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[79] 18 AAC 50.310 and 18 AAC 50.335

[80] PSD Avoidance Permit is the common term used to describe a permit that is obtained to construct additional sources of air emission at a facility that already holds a PSD permit. An owner/operator can avoid the complexity of a full PSD amendment, by voluntarily limiting the additional sources of air emission to be added to the facility to a level below the PSD major source modification trigger point emissions. PSD avoidance permits are quicker and less expensive to obtain, and typically do not require air quality modeling. Air Quality Permit No. 0071-AC005 is a PSD avoidance permit that was obtained by Alyeska for the purpose of adding the SVE and TBP systems.

[81] 7.5. The Permittee may replace Sources 1-4 listed in Condition 17.1 with similar distillate fuel oil-fired boilers provided that: 17.5.1. No replacement boiler is an affected facility subject to the New Source Performance, 17.5.2. The capacity of all boilers does not exceed 450 Boiler HP and no greater than 135 gph fuel throughput; and 17.5.3. The replaced boiler is removed from the VMT prior to the start-up of the replacement boiler.

Condition 17.3 currently provides emission source inventory information for Source 5, which is described as one settling tank and centrifuge system with a rated capacity of 238 barrels and a design throughput capacity of 1,500 barrels per day. Alyeska's proposal does not address how to handle this settling tank. It is not clear whether Alyeska is proposing to delete this tank, or whether Alyeska has renamed this "settling tank" as a mixing tank and increased its capacity to 500 barrels (the extra tank described in the Condition 17.2 analysis above). This request is not clear.

Alyeska proposed the addition of a new, steam dryer or thermal desorption unit with the design throughput capacity of 1,500 barrels per day. Alyeska labels this Source 7. It is not clear why this source was not specifically listed in the permit, since it appears to be part of the original TBP system application. If appropriate, ADEC should add this source to the permit and ensure that an emission limits and monitoring requirements are clearly specified in the Title V Operating Permit.

Condition 17.4 currently provides emission source inventory information for Source 7. Alyeska's amendment request re-labels Source 7 to Source 8 and eliminates the rated capacity of 20 cubic yards. Alyeska provides no technical justification for this change.

Alyeska also proposes grouping Sources 9-12 into a single category called "internal combustion engines with up to 460 cubic inch displacement," eliminating the specific model names and numbers, rated capacity and design throughput specifications. This amendment also requests the flexibility to replace the air pollution control devices on these engines. The Air Quality Permit No. 0071-AC005 approval was based on numerous voluntarily accepted emission limitations required to obtain a less expensive, quicker PSD avoidance permit. Alyeska's application for Air Quality Permit No. 0071-AC005 specifically states that the TBP Process will use four (4) Ford LSG-875, 193 HP, 74 lbs of fuel/hr; each equipped with 2 Ford Model 55212 catalytic converters. The emission estimates for this equipment were specifically based on this type and size of internal combustion engine and associated model of catalytic converter, and operating restrictions were imposed avoid the need for a full PSD amendment. Alyeska's request seeks to generalize this emission inventory without providing any supporting technical data to demonstrate how the replacement engines and control system will meet the existing permit emission limits. Potentially, Alyeska has an inventory of alternative sources and control systems that it could provide to ADEC for consideration as alternative replacement equipment. Submittal of a proposed replacement inventory and its emission estimates would allow ADEC to evaluate the technical and regulatory merit of Alyeska's proposal.

PWSRCAC Recommendation

PWSRCAC supports amendments for permitting flexibility, when the applicant can demonstrate that increased flexibility can be achieved while also ensuring emission limits can be met. Additional supporting information is needed to ensure that the permitting flexibility requested for Conditions 17.1 through 17.4 will result in compliance with the established emission limits.

Alyeska's Request to Modify AQC Permit to Operate No. 0071-AC005, Conditions 19, 20 and 21

Request: *"Delete this conditions in their entirety."*

Basis: *"These conditions serve no discernable purpose and, in the case of conditions 19 and 20, are redundant to those conditions that require compliance with emission limits (and attendant monitoring). Additional, in the case of conditions 19 and 20, there exists no standard or gauge against which compliance with these conditions can be judged."*

Effect of Change: *"No effect on emissions."*

Existing Condition 19 Language

Maintain and follow a standard operating program for the TBP and SVE and their components listed in Conditions 17 and 18 of this permit. The TBP and SVE operating and maintenance procedures shall be located at the facility so that the procedures are available to the operators of the system and to any authorized representative of the Department.

Existing Condition 20 Language

Install, maintain, and operate, in accordance with standard operating procedures, all TBP and SVE process equipment, instrumentation, testing and monitoring devices or instruments, and alarms to ensure control of VOC contaminants during the lifetime of the project.

Existing Condition 21 Language

Permit on File. Keep a copy of this permit, the State Air Quality Control Regulations 18 AAC 50, and Alaska Statutes 46.14, at the permitted facility.

PWSRCAC Analysis of Proposed Change

Conditions 19 and 20 both require Alyeska to install, maintain and operate all of the TBP and SVE emission sources in accordance with "standard operating procedures" to ensure volatile organic compound (VOC) emissions are minimized. In reviewing the permit history, this condition was imposed by ADEC for Alyeska to install, maintain and operate all of the TBP and SVE emission sources in accordance with the manufacturers' recommended maintenance and operating procedures; however, as Alyeska points out, this needs clarification. These conditions do not warrant deletion, rather they should be amended to clarify that "standard procedures" refers to the manufacturers' recommended maintenance and operating procedures. Manufacturers recommended operating and maintenance procedures are designed to assist in minimizing emissions and increasing system efficiency. Potentially, alternative procedures could be developed by Alyeska, and approved by ADEC, which accomplish the dame goal of ensuring that VOCs are minimized.

Condition 21 requires that Alyeska keep a copy of this air quality permit, the state air regulations, and the Alaska Statute on files at the VMT. While there is no specific state regulation that requires this record keeping, it certainly seems reasonable for a facility to have a copy of all its permits at the facility readily available for the facility staff's review and

reference. This is especially true for the VMT because several of Alyeska's air permitting staff are located in Anchorage, not at the Valdez Marine Terminal facility. Since statutes and regulations are commonly referred to in air quality permits, it also seems logical for Alyeska to have a copy of these documents at the facility for reference.

PWSRCAC Recommendation

PWSRCAC recommends retaining Conditions 19 and 21, since standard maintenance and operating procedures aide in minimizing emissions. Potentially, alternative procedures could be developed by Alyeska, and approved by ADEC, which accomplish the same goal of ensuring that VOCs are minimized. Condition 21 seems to be a reasonable administrative expectation.

Alyeska's Request to Modify AQC Permit to Operate No. 0071-AC005, Condition 23

Request: *"Delete this conditions in their entirety."*

Basis: *"Given the TBP emissions limit (condition 22) and the tank bottoms processing throughput limit (condition 24), this condition serves no discernible purpose. Additionally, it adds a layer of complexity to the operation while providing no environmental benefit."*

Effect of Change: *"No effect on emissions."*

Existing Condition 23 Language

Operate the TBP system for no greater than 4,368 hours per 12-month consecutive period. Boiler units Sources 1-4 listed in Condition 17.1 may be used for tasks other than the TBP process. Limit operation of each boiler unit to no greater than 4,368 hours per 12-month consecutive period.

PWSRCAC Analysis of Proposed Change

Condition 23 sets an enforceable operating hour limitation for the TBP system. Alyeska's PSD avoidance application for this permit specifically requested physical or operational limits to avoid classification under 18 AAC 50.300. As a result, ADEC specified this voluntarily requested operating hour restriction of 4,368 hours per year in the final permit. Alyeska states that this operating hour restriction is equivalent to the 18.5 ton per year emission limit imposed in Condition 22 and the 130,000-barrel per year processing limit in Condition 24. While it appears to be true that these emission, operating hour, and throughput limitations are equivalent and seek to control VOC emissions from the TBP system, Alyeska still has not made a compelling case for deleting the operating hour restrictions for the following reasons:

1. Alyeska self-imposed this limit in their PSD avoidance application;

2. Monitoring of operating hours is an easily quantifiable compliance measure for VMT field staff to use to monitor compliance with the permit, as most equipment have control systems installed which track run-time hours on a continual basis; and

3. A separate boiler operating hour restriction must be imposed to ensure that boilers used for tasks outside of the TBP process are limited to a total of 4,368 hours of operation.

Alyeska's request to delete Condition 23 also directly contradicts its Condition 17 amendment request for operational flexibility. Alyeska proposes to add language to Condition 17 to allow the TBP boilers to be used for tasks other than the TBP, but proposes to delete this same operational flexibility already afforded in Condition 23. Alyeska also proposes to delete the Condition 23 operating hour restriction for the boilers that provides a boiler-specific operating limit that allows the operational flexibility for the boilers to operate independently outside the TBP.

PWSRCAC Recommendation

PWSRCAC recommends retaining Conditions 23, since monitoring of operating hours is an easily quantifiable compliance measure for VMT field staff to use to monitor compliance with the permit and a separate boiler operating hour restriction must be imposed to ensure that boilers used for tasks outside of the TBP process are limited to a total of 4,368 hours of operation.

Alyeska's Request to Modify AQC Permit to Operate No. 0071-AC005, Condition 25 (25.1 through 25.2.3)

Request: *"Delete this conditions in its entirety and replace it with the following:"*

"Operate VOC emission controls:

a. Sources 9-12 in a manner sufficient to achieve compliance with the 18.5 ton 12 consecutive month VOC limit;

b. Sources 5-7 at negative gauge pressure, with respect to atmosphere, or in a manner that precludes leaks at levels greater than 10,000ppm from sources 5-7 and the vapor recovery system.

c. a and b above apply at all time during the TBP operations."

Basis: *"This request greatly clarifies and simplifies the intended permit requirements and makes them consistent with AS 46.14.140(b). the language in this condition, as it currently exists, is unnecessarily prescriptive and overly burdensome."*

Effect of Change: *"No effect on emissions."*

Existing Condition 25 (25.1 through 25.2.3) Language

"Operate VOC emission controls:

25.1. Internal combustion engines with catalytic converters to combust hydrocarbon vapors emitted from the TBP system during all times of TBP operations; and

25.2. Maintain the TBP system process under negative pressure, relative to atmospheric pressure.

25.2.1. During TBP system operation, maintain negative pressure relative to the atmosphere in mixing and settling tanks at –0.2" to –5.0" H 2O column.

25.2.2. If the differential pressure in the TBP system tanks is less than 0.35" H 2O column, then either shut down the boilers (Sources 1-4) providing heat to the TBP system, or perform an action such as one of the following to increase the differential pressure:

25.2.2.1. Increase the internal combustion engine (ICE) RPM, if the ICE has been operating at low RPM;

25.2.2.2. Decrease the process heat input to the TBP tanks, if the ICE has been operating at high RPM;

25.2.2.3. Start another ICE in the TBP system to combust hydrocarbon gasses; or

25.2.2.4. Institute a combination of the options in Conditions 25.2.2.1-25.2.2.3 to increase the differential pressure in the tanks.

25.2.3. If the differential pressure in either of the TBP system tanks reaches 0.0" H2O column or if a TBP system tank has positive pressure relative to atmospheric, then shut down the boilers (Sources 1-4) providing heat to the TBP system."

PWSRCAC Analysis of Proposed Change

Condition 25 requires Alyeska to operate the TBP system with two important VOC emission controls: (1) the TBP system internal combustion engines cannot operate without catalytic converters and (2) the TBP system is required to be operated under negative pressure, or shut down. Section 25.2 provides prescriptive operating and monitoring requirements to ensure compliance with the VOC emission limit established in the PSD Avoidance permit.

Alyeska requests that ADEC delete Condition 25.1, which requires internal combustion engines to be equipped and operated with catalytic converters at all times. The catalytic converters are required to meet the 18.5 ton per year VOC emission limit. Without converters in place, it is not clear how this emission limit will be met. In speaking with Alyeska staff, they indicate that they are evaluating alternative emission control technologies other than catalytic converters; however, they do not provide any information on these alternatives in the permit amendment application.

Alyeska's previous applications have demonstrated that operation of the IC engines with the catalytic converters installed will ensure that VOC emissions remain at or below 18.5 tons per year. Thus, the requirements to have catalytic converters installed provides an assurance that the emission limit can be achieved. Without this requirement, the VMT operating facility staff does not have a simple, quantifiable, measurable standard for compliance. It would be much easier to establish an effective facility operating procedures that states all TBP system IC engines must be operated with catalytic converters at all times, than it is to establish a facility tangible daily operating procedure to ensure compliance with an annual 18.5 ton emission limit.

Similarly, Alyeska proposed to simplify the requirement to operate the TBP system under negative pressure by defining the term "under negative pressure" as meaning precluding leaks at levels greater than 10,000 ppm from the TBP system mixing and settling tanks. Condition 25 specifies that a "negative pressure" in the mixing and settling tanks is met at –0.2" to –5.0" H_20 column. While the Condition 25 gauge pressure monitoring requirement

provides the VMT operating facility staff with a simple quantifiable, measurable standard for compliance and clear instructions to shut down the system if that standard is not met, Alyeska's proposed alternative does not.

Although not clearly explained in the rationale for the Condition 25 amendment request, Alyeska's Condition 26 amendment provides some insight into the alternate leak detection monitoring program that is recommend by Alyeska. In Alyeska's revised Condition 26(h), they recommend either: (1) repairing the TBP system and reporting the excess emissions, or (2) checking for leaks in excess of 10,000ppm at least once every three operating months.[82] Of note, Alyeska's revised language does not include shutting down the TBP when an emission exceedance occurs, rather it allows the system to be operated at a positive pressure, until repaired, and provides time for repair and reporting or even more infrequent quarterly leak checks as an alternative.

This New Source Review (NSR) permit contains a level of specificity that is not typically found NSR permits. However, it should make the transition of these permit requirements to a Title V Operating Permit smoother, as many monitoring requirements are already contained in the NSR permit. In most NSR permits, the operating, monitoring and reporting standards for meeting a particular limit are so vague that it is often impossible to determine compliance. This lack of NSR specificity prompted EPA to develop Title V regulations,[83] to institute sufficient periodic monitoring requirements for facility staff to reasonably assure compliance with applicable emission limitations or standards. It seems terribly inefficient to remove emission monitoring specificity by amending a New Source Review permit, only to put that same level of specificity right back in the Title V operating permit to meet the sufficient periodic monitoring standard.

Since Condition 25 was imposed by ADEC as a specific condition of a NSR permit and the validity of those conditions was not challenged by Alyeska in 2000, and the condition has been in place since that time, it is an enforceable standard for the purpose of the Title V Operating Permit Program.

PWSRCAC Recommendation

PWSRCAC recommends retaining the language of Condition 25 to ensure that there are quantifiable, measurable standards for VOC compliance monitoring of the IC engine exhaust, and the TBP system VOC emissions.

Alyeska's Request to Modify AQC Permit to Operate No. 0071-AC005, Condition 26 (26.1 through 26.3.2)

Request: *"Delete these conditions in its entirety and replace them with the following:"*

"Monitor TBP system performance and emissions as follows:

[82] Using EPA Reference Method 21
[83] Title 40 CFR Part 70 and Part 71.

a. record the total fuel consumed by each of the boilers (source nos. 1-4) at least once per week during their operation;

b. the TBP system will be considered to be in operation whenever the temperature in any of the source nos. 5, 6, and 7 is greater than 100°F and any of those sources contains tank bottoms;

c. record the times and dates of the TBP system operation;

d. record the temperature in each of the sources 5,6,and 7 at least once each hour;

e. unless operating the system under positive pressure and pursuant to the leak detection protocol described in h of this section, record the differential pressure in each of source numbers 5,6, and 7 at least once each hour as read from a pressure measuring device readable to 0.10" H_2O column;

f. record the exhaust VOC concentration (as carbon) from the air pollution control device at least once each day as determined by a flame ionizer detector, a photo-ionization detector, or equivalent device;

g. record the volume of tank bottoms contained in each tank to be cleaned prior to processing them in the TBP system; and

h. if sources 5-7 are not operated under negative gauge pressure, either repair the system so that negative gauge pressure is achieved (and submit a report pursuant to 18 AAC 50.240) or evaluate the system components (i.e., those that contain or convey hydrocarbon vapors) for leaks using EPA reference method 21 at least once every three operating months. Leaks detected by method 21 in excess of 10,000ppm shall be repaired as soon as practicable. For those leaks that take more than 5 days to repair, submit a report pursuant to 18 AAC 50.240."

Basis: *"The proposed conditions accomplish the same control levels and effect records as the original permit language but they are more clear and allow for operational flexibility. Additionally, Alyeska received prior approval to perform most of the emission estimates as described above (see Alyeska letter number 00-15964)."*

Effect of Change: *"No effect on emissions."*

Existing Condition 26 (26.1 through 26.3.2) Language

" Monitor TBP system performance and emissions according to the following schedule:

26.1. Record the total fuel consumed by each of the boilers used in the TBP system once a week during operation.

26.2. The system will be considered to be in operation whenever the temperature in either TBP tank is greater than 100°F and the system contains tank bottoms.

During operation, monitor and record:

26.2.1. The temperature in each tank no less than once every hour;

26.2.2. The times and dates during which the TBP system is in operation;

26.2.3. The total hours of operation daily;

26.2.4. The differential pressure in the mixing tank and settling tank continuously, with a pressure measuring device accurate to ±0.05" H2O column, and record the measurement every 15 minutes.

26.2.5. Measure the total hours of operation for each IC engine. Record the hour-meter reading before operations and at IC engine shutdown.

26.3. According to the procedure incorporated in Exhibit E or an ADEC-approved alternative, before processing in the TBP system, measure the volume of the tank bottoms for each tank by the following methodology:

26.3.1. For each open tank, take measurements of tank bottom depth at specified points within the tanks.

26.3.2. Calculate the volume of tank bottoms using the depth measurements from Condition 26.3.1 and the methodology as set out in Exhibit E. Record and report in the Facility Operating Report the tank bottoms' volume processed for each tank processed during that calendar quarter."

PWSRCAC Analysis of Proposed Change

Condition 26 establishes the TBP system process monitoring and record keeping requirements. Alyeska proposes revised Condition 26 language, stating that the proposed conditions accomplish the same level of controls that are already in place. Although Alyeska's proposed language in "a-d" is very similar to the current language, the proposed language for "e" reduces the duration from once per hour to once every 15 minutes, using a less accurate gauge and the proposed language for "h" replaces a required shutdown with continued operation of the equipment while it leaks. While the changes for "e" may be warranted, if the monitoring frequency is unduly burdensome with no environmental benefit, Alyeska provides ADEC with no rationale for approving this change. Alyeska also provides no explanation for the proposed change to the gauge. Alyeska's proposed changes to "h" clearly reduce the environmental controls on the TBP system, as Alyeska proposes alternative language to keep the TBP system in operation in the presences of leaks, rather than shutting it down, as required by Condition 25.

Alyeska also adds "f," which requires monitoring of exhaust VOC from the air pollution control device IC engine stack monitoring should warrant consideration to aid in monitoring VOC emissions. Alyeska has not provided any supporting technical data or analysis to demonstrate that air emission limits set in the PSD avoidance limit can be met if these requirements are removed. Furthermore, since Condition 26 was imposed by ADEC as a specific condition of a NSR permit and the validity of those conditions was not challenged by Alyeska in 2000, it is an enforceable standard for the purpose of the Title V Operating Permit Program.

PWSRCAC Recommendation

PWSRCAC recommends that consideration should be give to Alyeska's recommendation for VOC monitoring of the IC engine stacks; however, the other requirements of Condition 26 should remain in place to minimize VOC emissions from the TBP system.

Alyeska's Request to Modify AQC Permit to Operate No. 0071-AC005, Condition 27.1 and 27.2

Request: *"Delete these conditions in its entirety and replace them with:"*

"Monitor SVE system performance and emissions as follows:

a. at least once each month, permittee shall sample the SVE exhaust and measure the organic compound emission rate as carbon;

b. when performing the organic compound emission rate measurement, permittee shall also measure the stack gas flow rate; and

c. permittee shall use the measurements collect pursuant to a and b above to calculate and record the mass emission rate of organic compounds as carbon each month."

Basis: *"The SVE system is in its third year of operation and a sufficient emission rate record has been established to reduce sampling frequency to monthly intervals pursuant to Condition 27.2. Sampling more frequent than monthly has provided no benefit and redundantly proves what is know well known as a very low VOC emission rate from this operation. Alyeska is requesting that the emission measurement methods be simplified to essentially method 25A as opposed to the cumbersome speciation methods listed in condition 27.1. Use of these methods preclude the comprehensive management of VOC emissions from the VMT as their results cannot be added to the emissions from other operations – all of which are determined as carbon. "*

Effect of Change: *"No effect on emissions."*

Existing Condition 27 Language

Monitor SVE system performance and emissions according to the following schedule:

27.1. *Except as provided for in Conditions 27.2, 27.3, and 27.4, upon startup, the Permittee shall, to the extent practicable, obtain exhaust stream grab samples at intervals of no greater than 4 days between samplings and no less than 2 samples per 8-day period, using the modified Method 18 in 40 CFR, Part 60, Appendix A, and the modified Toxic Organic Compound Method TO-14 (SUMMA® passivated canister sampling). Permittee shall analyze for Total VOCs using EPA Method TO-3, for BTEX using CARB Method 410, and ethane using ASTM Method D-1946. Permittee shall collect, transport, and analyze samples in accordance with the quality assurance/quality control procedures specified in the Permittee's SVE Startup Testing and Operation Workplan. The Permittee shall report all analytical results in units of mass per unit volume using standard American or metric units.*

27.2. *Estimate VOC emissions using the highest measured flowrate during the test interval and highest measured analytically determined concentrations of volatile organic compounds. After the first month of continuous operation, should exhaust stream analytical data and emission estimates demonstrate VOC emission rates of less than 2.5 tons per month, the Permittee may conduct sampling as set out in Condition 27.1 at intervals of no greater than 30 days between samplings.*

PWSRCAC Analysis of Proposed Change

Condition 27 establishes the SVE system process monitoring and record keeping requirements. Alyeska proposes revised Condition 27 language on the basis that the SVE system in its third year of operation and a sufficient emission rate record has been established warranting a change in the sampling method and frequency. Alyeska also refers to very low VOC measurements from the SVE system. Alyeska proposes to reduce the sampling frequency from once every 4 days to once every month. While Alyeska's proposed changes may warrant consideration, Alyeska provides no technical data or analysis to support their position.

PWSRCAC Recommendation

PWSRCAC recommends retaining the language of Condition 27.1-27.2, until Alyeska provides technical data to support less frequent VOC sampling (once a month vs. every 4 days).

Alyeska's Request to Modify AQC Permit to Operate No. 0071-AC005, Condition 27.3

Request: *"Delete these condition (including 27.3.1 and 27.3.2) in its entirety."*

Basis: *"Under 18 AAC 50.200 and 220, the department has the authority to request testing or emissions information much more broadly than this condition allows. As such, this condition is exclusive and confusing. "*

Effect of Change: *"No effect on emissions."*

Existing Condition 27.3 Language

27.3. If requested by the Department, conduct additional source sampling of the SVE exhaust, and report results as described in 18 AAC 50.220.

27.3.1. Use the applicable test methods set out in 40 CFR Part 60, Appendix A, 40 CFR Part 63, Appendix A, CARB Method 410, and Method TO-3 and TO-14 (SUMMA® passivated canister sampling), in EPA 600/4-89-017, to ascertain compliance with applicable standards and permit requirements.

27.3.2. Within 45 days after completion of the set of tests, submit the results, to the extent practicable, in the U.S. EPA Contract Laboratory Program Statement of Work format as contained in the Permittee's contract laboratory's Standard Operating Procedures titled "Air Toxics Raw Data Package SOP September 1992."

PWSRCAC Analysis of Proposed Change

Condition 27.3 establishes a specific test method for testing the SVE system. Alyeska states that since ADEC has the authority to require source testing, pre-establishing a method for that test in a permit is unnecessary. While it is true that ADEC has the statutory authority to require source testing under AS 46.14.180, the enforceable test methods that are established in the regulations at 18 AAC 50.220 default to standard EPA CFR test methods, or ones specifically established by a source-specific permit limit.

In this case, ADEC decided to impose a source-specific testing method for the SVE system. Alyeska has not provided any explanation as to why the method specified in Condition 27.3 is invalid or inappropriate for testing their SVE system.

PWSRCAC Recommendation

The test method listed in Condition 27.3 is technically supported; the benefit of deleting this method from the permit is not clear.

Alyeska's Request to Modify AQC Permit to Operate No. 0071-AC005, Condition 28.5

Request: *"Delete the last sentence of this condition."*

Basis: *"The emission estimate methodology is described in condition 27."*

Effect of Change: *"No effect on emissions."*

Existing Condition 28.5 Language

28.5. Calculation sheets describing the use of measured flowrates and analytically-determined concentrations of volatile organic compounds in estimating mass emission rates. The emission estimates will use the equations and techniques cited in the Permittee's SVE Workplan.

PWSRCAC Analysis of Proposed Change

Condition 28.5 requires Alyeska to use equations and techniques for recording SVE test data from the Alyeska's SVE "workplan." Alyeska notes that the equations and techniques should be consistent with the standard test methods specified in Condition 27. Standard test methods have standard equations and standard techniques for record keeping; therefore, this request is logical.

PWSRCAC Recommendation

Standard test methods have standard equations and standard techniques for record keeping; therefore, this request for consistent record keeping practices is logical.

Alyeska's Request to Modify AQC Permit to Operate No. 0071-AC005, Condition 28.6

Request: *"Delete the last sentence of this condition."*

Basis: *"The emission estimate methodology is described in condition 26."*

Effect of Change: *"No effect on emissions."*

Existing Condition 28.6 Language

28.6 Calculation sheets describing the use of measured flowrates and analytically-determined concentrations of volatile organic compounds in estimating mass emission rates. The emission estimates will use the equations and techniques cited in the Permittee's TBP Application and Sampling Protocol.

PWSRCAC Analysis of Proposed Change

Condition 28.6 requires Alyeska to use equations and techniques for calculating the TBP emission estimates from Alyeska's Application and Sampling Protocol for the TBP system. Alyeska states that the equations and techniques should be consistent with the emission estimating methodology specified in Condition 26.

While Condition 26 requires gathering and recording of the input data to the TBP system VOC emission calculations, it does not specify the equations and techniques for calculating the TBP emission estimates. Those equations and techniques are located in Alyeska's Application and Sampling Protocol for the TBP system.

PWSRCAC Recommendation

There are no equations for calculating the TBP emission estimates in Condition 26; therefore, deleting Condition 28.6 does not seem to be warranted.

Alyeska's Request to Modify AQC Permit to Operate No. 0071-AC005, Condition 34

Request: *"Delete this condition in its entirety."*

Basis: *"All measurements taken to date show there is little if any H_2S in the TBP hydrocarbon vapors. Additionally, there are no source H_2S limits in the permit and no regulations supporting one. As such, any H_2S monitoring is inconsistent with AS 46.14.180."*

Effect of Change: *"No effect on emissions."*

Existing Condition 34 Language

"Monitor H_2S content of TBP Hydrocarbon vapors used as internal combustion engine (ICE) fuel no less than once a month by using length of stain detector tubes of the relevant detection range as set out in Gas Processors Association Method Standard 2377."

PWSRCAC Analysis of Proposed Change

Condition 34 requires Alyeska to monitor the hydrogen sulfide content of the TBP vapors used as fuel once per month. Alyeska states that this testing is not required as there is no sulfur standard for this fuel. Alyeska's PSD avoidance permit application was approved, in part, based on their assumption that the TBP vapors used as fuel in the IC engines had a very low hydrogen sulfide (H_2S) content. Monthly H_2S testing ensures that this remains the case. Alyeska's request may warrant further consideration if they provide a historical analysis of the

upper limit of H_2S in the fuel, along with a revised emission estimate for sulfur oxide emissions based on that upper limit.

PWSRCAC Recommendation

PWSRCAC recommends retaining the language of Condition 34, until Alyeska provides technical data to demonstrate that fuel sulfur monitoring is not required to show compliance with the sulfur dioxide emission standards.

Alyeska's Request to Modify AQC Permit to Operate No. 0071-AC005, Condition 36.2

Request: *"Delete this condition in its entirety."*

Basis: *"As discussed above, we proposed to remove the condition requiring that this data be collected and, if accepted, this condition will convey no meaning."*

Effect of Change: *"No effect on emissions."*

Existing Condition 36.2 Language

"List within the Facility Operating Report the H2S concentration of TBP Hydrocarbon vapors measurements required by Condition 34."

PWSRCAC Analysis of Proposed Change

Condition 36.2 requires Alyeska to include the hydrogen sulfide data collected in Condition 34 in the Facility Operating Report. Alyeska points out that if ADEC accepts their proposed Condition 34 amendment, the associated reporting requirement of Condition 36.2 will be obsolete. PWSRCAC recommended that Condition 34 remain in place; correspondingly, we recommend that Condition 36.2 remain in place.

PWSRCAC Recommendation

PWSRCAC recommends retaining the language of Condition 36.2, until Alyeska provides technical data or analysis to support their position for removing Condition 34.

Table 3: Acronyms	
AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
AMP	Alternate emission Monitoring Program
APSC	Alyeska Pipeline Service Company
AQ	Air quality
BACT	Best Available Control Technology
Btu	British thermal unit
BWTF	Ballast Water Treatment Facility
CAA	Clean Air Act
CFR	Code of Federal Regulations
CO	Carbon monoxide
EPA	Environmental Protection Agency
HAP	Hazardous air pollutants
HHV	Higher heating value
IC	Internal combustion
LAER	Lowest achievable emission rate
LDAR	Leak Detection and Repair
LHV	Lower heating value
MMBtu	Million British thermal units
NAAQS	National Air Ambient Air Quality Standards
NESHAP	National Emission Standard for Hazardous Air Pollutants
NGL's	Natural gas liquids
NO_x	Nitrogen oxides
NSPS	New Source Performance Standards
NSR	New Source Review
OLD	Organic Liquid Distribution
PM_{10}	Particulates matter
PSD	Prevention of Significant Deterioration
PWSRCAC	Prince William Sound Regional Citizens Advisory Council

Table 3: Acronyms	
SO_2	Sulfur Dioxide
SOP	Standard Operating Procedure
SVE	Soil Vapor Extraction
TAPS	Trans Alaska Pipeline System
TBP	Tank Bottoms Processing
USC	United States Code
USEPA	United States Environmental Protection Agency
VMT	Valdez Marine Terminal
VOC	Volatile organic compound