Regional Citizens' Advisory Council / *"Citizens promoting environmentally safe operation of the Alyeska terminal and associated tankers."*

In Anchorage: 3709 Spenard Road / Anchorage, Alaska 99503 / (907) 277-7222 / FAX (907) 277-4523
In Valdez: P.O. Box 3089 / 339 Hazelet Avenue / Valdez, Alaska 99686 / (907) 835-5957 / FAX (907) 835-5926

December 30, 2004

Mr. Jerry Brossia
Authorized Officer, Bureau of Land Management
Joint Pipeline Office (JPO)
411 W. 4th Avenue
Anchorage, Alaska 99501

Subject: Strategic Reconfiguration Working Group (SRWG)
Final Comments on the Bureau of Land Management November 2004 Environmental Assessment and the Draft Decision of Record in Regards to Alyeska Pipeline Service Company (APSC) Proposal to Strategically Reconfigure the Valdez Marine Terminal (VMT).

Dear Mr. Brossia:

The Strategic Reconfiguration Working Group (SRWG) appreciates the opportunity to submit final comments on the Bureau of Land Management November 2004 Environmental Assessment and the Draft Decision of Record in Regards to Alyeska Pipeline Service Company's (APSC) proposal to Strategically Reconfigure the Valdez Marine Terminal (VMT).

More than thirty community members, industry representatives and regulators who make up the SRWG have volunteered time and talent to review the proposed project and formulate specific comments with respect to the NEPA process, crude oil storage and movement, berth facilities and operations, fire protection and security issues, air and water quality impacts, socio-economic issues, operations and maintenance, and SERVS reconfiguration. The SWRG has also hired consulting support to provide additional subject matter expertise support on: fire and emergency response issues, air quality, oil spill response, water quality, and other engineering issues.

The SRWG thanks the Joint Pipeline Office (JPO) and the Bureau of Land Management (BLM) for the opportunity to provide comments on the proposed project. Strategic Reconfiguration presents an exciting opportunity to implement pollution prevention measures, remove old and high-risk equipment from service, and renovate a facility that is almost three decades old. The NEPA process ensures public and agency participation. With continued cooperation, up-front planning, and a candid exchange of ideas, the SRWG looks forward to a Strategic Reconfiguration project that reduces pollution, mitigates community impacts, and reaps the intended optimization and economic benefits for APSC.

A principal concern, as reflected in our lengthy comments, is that the November 2004 Environmental Assessment does not contain enough information to confidently conclude the proposed project is environmentally or economically beneficial. As required by 40 CFR 1500.1(b) "The information must be of high quality. Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA."

The SWRG is very concerned that the Draft Decision of Record recommending a Finding of No Significant Impact (FONSI) is premature. The November 2004 Environmental Assessment does not substantiate a FONSI at this time, and we strongly recommend the Environmental Assessment be revised to examine all the impacts, alternatives, and consider additional mitigation to reduce the environmental impacts and consequences of this proposed project. We also strongly recommend the Environmental Protection Agency, Region 10, be enlisted for technical and regulatory support in examining the environmental impacts, risks and consequences of this very important project for the nation's largest oil terminal.

The SRWG would like to better understand the overall scope and impact of the proposed project, participate in a more transparent engineering and design effort, and provide meaningful comments that reflect our general support of this important project. Specifically, we recommend the Environmental Assessment and Decision Record be revised to address the following:

Overall Concerns: The NEPA review needs to:

- Include transparent decision making;
- Satisfactorily identify all the alternatives including pollution prevention alternatives;
- Include adequate consultation and review with EPA and other relevant federal and state agencies;
- Identify and examine all the significant risks;
- Include an independent agency evaluation of all major environmental impacts and risks from the proposed project;
- Develop satisfactory alternatives, mitigation measures, or conditions of approval to mitigate the identified risks; and
- Ensure all conclusions are well documented and supported.

Major Concerns: The Draft FONSI is erroneously based on:

- A proposed freshwater firefighting system which does not provide sufficient firewater capacity or reliability to fight the worst case tank fire scenario which may occur at the terminal;
- Insufficient tank capacity which may ultimately result in requested agency waivers to expand the shipping windows to increase tanker transits in foul weather, or to delay important tank inspection, repair, or maintenance;
- Inadequate staffing levels which may cause a catastrophic environmental event and/or adversely impact the ability to respond to the catastrophic event itself;
- Incomplete discussion of an internal floating roof design that has potentially serious risks associated with fire, explosion, or a major spill, as well as an increased air pollution potential which are not adequately addressed;
- An inadequate local socioeconomic impact analysis;
- Seriously deficient power generation alternative analysis which never reaches a conclusion on an environmentally preferable alternative;

- Abandonment of the environmentally responsible use of waste gas as a fuel source, in favor of increasing pollution by combusting the waste and burning non-renewable fuel resources to generate power;
- Fire and explosion hazards associated with the vapor combustor alterative which is not resolved;
- Sweeping changes to every major system component of the VMT with the exception of sorely needed upgrades to the Ballast Water Treatment Facility to reduce or eliminate the environmental impact of this major pollution source;
- Little consideration of the operation and maintenance issues posed by reduced capacity, reduced reliability, reduced redundancy, and remote terminal operation;
- Lack of discussion of potential pollution prevention projects that could mitigate potential environmental impacts; and
- Inadequate evaluations of major environmental impacts associated with lack of BWTF modifications, relocation of the OCC, consolidation of Valdez facilities and operations, installation of ultrasonic flow meters, installation of a power recovery turbine, SERVS reconfiguration, and introduction of non-indigenous species.

Alternatives: The SRWG recognizes the need to upgrade and reconfigure the terminal so that it is a safe and effective facility for the future, and is not seeking "a no action alternative;" however, the Environmental Assessment offers no substantial technical analysis to consider other alternatives. While the list below is not exhaustive, the SRWG requests the BLM consider, at a minimum, the following alternatives:

- Replace the vapor recovery system with a more efficient system to solve the combined emission problems associated with storage tank vapors, BWTF toxic emissions, and tanker vapors;
- Provide power generation alternatives which include use of non-polluting power sources such as the power recovery turbine, low-sulfur emission sources, continued use of waste gas as a fuel source, or power supply to tankers when docked to reduce opacity events and sulfur emissions;
- Prioritize equipment to be removed from service based on environmental risk (e.g. selection of tanks and piping to be decommissioned based on corrosion and structural integrity history);
- Ensure appropriate personnel resource requirements;
- Provide alternatives to reduce fire, explosion and major oil spill risks; and
- Ensure adequate firewater supply alternatives are available to provide more cost effective supply options without reducing fire response capability, such as using excess tank capacity for additional freshwater supply.

Mitigation Measures: Eight (8) of the proposed mitigation measures do not eliminate, compensate or otherwise reduce the environmental risk or impact above and beyond what is already required by other agencies. The remaining five (5) mitigation measures lack enforceable timeframes, content, or objectives to be met to actually reduce, eliminate, compensate or otherwise reduce the environmental risk or impact. There are no proposed mitigation measures at all for "unavoidable" impacts such as local socioeconomic impacts which are expected to be extensive.

Our concerns are substantial, serious, and are presented to BLM in the best interest of our nation, state, local communities, and the applicant. We all benefit from a collaborative effort which ensures this major renovation of the Valdez Marine Terminal provides an opportunity to implement pollution prevention measures, remove old and high risk equipment from service, and upgrade a facility which is almost three decades old, while mitigating environmental impacts, risks and consequences, and reaping the intended optimization and economic benefits for APSC.

We appreciate your willingness to sit down and conduct a comprehensive review of our comments on January 14, 2005 at the JPO offices in Anchorage. We look forward to meeting with you then, and working with you and your staff to complete a high quality NEPA review for the nation's largest oil terminal.

Please do not hesitate to contact me at 907-835-5957 if you have any comments or questions.

Sincerely,

John S. Devens, Ph.D.
Executive Director

Attachment: Valdez Marine Terminal Strategic Reconfiguration Workgroup, Final Comments, NEPA Review of APSC's Proposed Strategic Reconfiguration Project, December 30, 2004

Cc: SRWG Workgroup Members and Participants
PWSRCAC Board of Directors
Bert Cottle, Mayor of Valdez, Alaska
Richard Ranger, Alyeska Pipeline Service Company
David Wight, Alyeska Pipeline Service Company
Lois Simenson, NEPA Coordinator
Joe Hughes, Bureau of Land Management
Joe Dygas, Bureau of Land Management, SR Coordinator
Kristina Reichgott, EPA NEPA Review Manager, Region 10
Tom Chapple, ADEC Air and Water Quality Director
Bill Hutmacher, ADEC Industry Preparedness and Pipeline Program Manager
Gary Powell, State of Alaska FireMarshall
Pat McCann, Koch Pipeline Company, LLC
Margaret Yaege, Conoco Phillips Transportation Alaska, Inc.
Michael P. Tudor, ExxonMobil Pipeline Company, Inc.
J.F. Oveson, Unocal Pipeline Company
Albert Bolea, BP Pipelines (Alaska), Inc.

Valdez Marine Terminal

Strategic Reconfiguration Workgroup (SRWG)

Final Comments

NEPA Review
of
Alyeska Pipeline Service Company's
Proposed Strategic Reconfiguration Project

To: Joint Pipeline Office &
Bureau of Land Management (Lead Agency)

December 30, 2004

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Introduction

In August 2004 Alyeska Pipeline Service Company (APSC or Alyeska) submitted an Environmental Report entitled: Strategic Reconfiguration (SR) of the Valdez Marine Terminal: Environmental Report to the Joint Pipeline Office (JPO). This report describes sweeping changes proposed for the continued operation and configuration of the Valdez Marine Terminal (VMT) for every major system component at the facility with the exception of sorely needed upgrades to the Ballast Water Treatment Facility (BWTF).

SR Project Proposes to Reconfigure Every Major System Component Except Sorely Needed BWTF Upgrades

APSC submitted the Environmental Report to JPO to serve as a basis for conducting a National Environmental Policy Act (NEPA) review. A NEPA review is required to evaluate the environmental effects of the VMT Strategic Reconfiguration (SR) proposal. APSC and the Trans-Alaska Pipeline System (TAPS) Owners are also seeking a Notice to Proceed (NTP) because the proposed VMT modifications require a design change to the TAPS Design Basis, DB-180.

The Bureau of Land Management (BLM) is the lead agency at the JPO responsible for preparing the Environmental Assessment (EA) as required by NEPA. BLM has hired a contractor to prepare the Environmental Assessment, and based on that assessment BLM will either issue a Finding of No Significant Impact (*FONSI*) or a decision to complete an Environmental Impact Statement (EIS).

BLM's Draft Decision Concludes SR Project Will Have No Significant Impact

On December 1, 2004, the BLM issued the Environmental Assessment and draft agency record of decision for a 30-day public review and comment period. BLM's decision concludes the major renovation and redesign of almost every major system at the VMT does not warrant an Environmental Impact Statement (EIS), presents no significant impact to the environment, and warrants a FONSI. BLM's decision concludes the project has no significant impact; yet, proposes 13 mitigation measures to reduce the environmental consequences of the project.

SRWG Does Not Support *FONSI*

The Strategic Reconfiguration Working Group (SRWG) does not agree with BLM's decision to issue a Finding of No Significant Impact (*FONSI*) for the Strategic Reconfiguration (SR) Project at the Valdez Marine Terminal (VMT). The SRWG has identified a number of significant risks and impacts, which at a minimum deserve additional attention in the form of mitigation measures or conditions of approval for this project, and may even require further review via an EIS. The SRWG requests the BLM revise the Environmental Assessment to provide clear and compelling technical analysis and associated documentation to support a FONSI. The SRWG also requests BLM substantially improve the conditions of approval and mitigation measures to reduce the potential risk for this project, or consider an EIS to properly evaluate this project if a mitigated FONSI cannot be developed.

This document contains the SRWG's comments on BLM's decision.

VMT Strategic Reconfiguration Workgroup (SRWG)

In response to APSC's Environmental Report, and the proposed major changes to the VMT, the Prince William Sound Regional Citizens' Advisory Council (PWSRCAC) formed a Strategic Reconfiguration Working Group (SRWG) in late August 2004. The purpose of the SRWG is to provide a forum to review APSC plans for reconfiguring the Valdez Marine Terminal (VMT) and to provide recommendations to the JPO and APSC in a collaborative effort to minimize the risks and impacts to the environment and other stakeholder interests.

On October 5, 2004 the SRWG provided the JPO, and BLM as the lead agency on the NEPA review, with a full set of preliminary comments and concerns.[1] The SRWG also evaluated the BLM's Environmental Assessment and Draft Finding of No Significant Impact and Decision Record *(*hereinafter referred to as Draft FONSI), with final comments contained in this document.

SRWG Structure

The SRWG provides an organized forum for APSC and the agencies to impart information on the proposed Strategic Reconfiguration Project options and impacts, and also provides an opportunity for stakeholders to review proposed plans and provide well-informed technical and regulatory input. SRWG's goal is to resolve as many issues and concerns as possible early in the process, so that project and permit delays are avoided. The goal is not to hinder needed upgrades and improvements to the aging terminal; rather, the SRWG strives to work cooperatively to identify issues and concerns, and to seek solutions which benefit all stakeholders resulting in safe, effective, low impact changes to the terminal, and resolution of long-standing environmental impacts.

The SRWG is composed of a main workgroup and several sub-working groups. The main workgroup is responsible for:

- Identifying key technical, regulatory, and socioeconomic issues associated with the proposed VMT SR project;
- Assigning sub-working groups to provide technical and regulatory review and recommendations for resolving key issues;
- Reviewing the sub-working groups recommendations;
- Resolving as many issues as possible to streamline the NEPA process; and
- Identifying unresolved issues to be addressed via formal regulatory review and approval.

The SRWG has identified seven (7) sub-working groups to review technical, regulatory, and socio-economic issues. Each sub-working group was assigned a specific scope of work. Participants were assigned to the sub-groups based on expertise and interest. Recommendations from each sub-group were reported back to the

[1] Strategic Reconfiguration Working Group (SRWG) Preliminary Draft Comments on the Alyeska Pipeline Service Company (APSC) Strategic Reconfiguration of the Valdez Marine Terminal (VMT) Environmental Report dated August 2004, Submitted by the SRWG to Jerry Brossia, Authorized Officer at the JPO, October 5, 2004.

SRWG. PWSRCAC facilitated the workings of the subgroups, assisted the SRWG in the development and refinement of issues, and prepared this report.

All stakeholders were invited to participate, and a website was established to provide a high level of communication and transparency to all involved in the workgroup review process. A tremendous amount of expertise was combined within the SRWG to review APSC's Environmental Report, BLM's Environmental Assessment, and Draft Finding of No Significant Impact and Decision Record, and other associated technical and economic documents provided by APSC and JPO. Consulting support was provided by PWSRCAC to provide specific additional subject matter expertise support on: fire and emergency response issues, air quality, oil spill, water quality, and other engineering issues.

SRWG Preliminary, Draft Comments

Recognizing the hard work, expertise, and important questions and concerns raised by the SRWG, BLM specifically requested the workgroup submit preliminary comments ahead of the scheduled comment period (October 15, 2004 through November 15, 2004). In the October 5, 2004 comments the SRWG acknowledged BLM's proactive solicitation as a sincere effort to consider and address important stakeholder concerns as part of the Environmental Assessment and agency decision process; however, after reviewing BLM's Environmental Assessment, and Draft FONSI, the SRWG was disappointed to find most of the significant concerns raised were not addressed.

BLM Requested SWRG's Input in October, Yet the Environmental Assessment Ignores Most of the Concerns Raised

The SRWG appreciates the APSC experts that presented additional information to the SRWG on internal floating roofs, vapor combustors, fire systems, and crude oil capacity issues. These technical discussions and presentations served to alleviate a number of the concerns identified by the SRWG in its October 5, 2004 preliminary comments and better defined the proposed project. However, the SRWG remains concerned APSC was unwilling to provide any expertise to the SRWG on important changes to the facility such as power generation options and the associated air quality impacts.

The comments provided herein are a collection of the remaining SRWG concerns after meeting with APSC subject matter experts, the BLM and other JPO representatives, and a careful examination of the Environmental Assessment, and Draft FONSI.

Because APSC's Environmental Report, BLM's Environmental Assessment, and BLM's Draft FONSI are incomplete with respect to plans and alternatives for reconfiguring the VMT, considerable uncertainty still exists with respect to what a reconfigured VMT will "look like" and how important citizen stakeholder issues will be resolved. The SRWG provides these comments to assist the State and Federal agencies in their formal implementation of the NEPA process, in any future Notices to Proceed (NTPs) to change the TAPS Design Basis, and in any development, review, and approval, of required environmental permits.

SRWG Roles and Responsibilities

The SRWG appreciates the efforts of the agencies of the Joint Pipeline Office that provided technical and regulatory subject matter expertise that enabled the SRWG to better understand the proposed Strategic Reconfiguration options, impacts, and agency concerns. The SRWG requests the JPO keep the SRWG

informed with respect to the scope and timing of JPO's regulatory activities affecting resolution of the citizen stakeholder concerns described herein, and those associated with permit application and review, and deadlines for public participation in the reconfiguration process.

SRWG Participants

The Valdez Marine Terminal Strategic Reconfiguration Workgroup participants are listed below.

Alaska Department of Environmental Conservation (ADEC)* - advisory role		
Ron Doyel	rdoyel@jpo.doi.gov	907.834.6707
Alyeska Pipeline Service Company (APSC) - advisory role		
Joe Hegna	Joe.Hegna@alyeska-pipeline.com	907.787.8833
Richard Ranger	rranger@alyeska-pipeline.com	907.834.7302
City of Valdez		
Dave Dengel	ddengel@ci.valdez.ak.us	907.834.3406
George Keeney	gkeeney@ci.valdez.ak.us	907.834.3467
Alan Sorum	asorum@ci.valdez.ak.us	907.835.4981
Lisa Von Bargen	lvonbargen@ci.valdez.ak.us	907.834.3425
Joint Pipeline Office (JPO) - advisory role		
Joe Dygas	jdygas@jpo.doi.gov	907.257.1327
Joe Hughes	jhughes@jpo.doi.gov	907.834.6701
Prince William Sound Community College (PWSCC)		
Jody McDowell	ksnorth@alaska.net	907.835.2654
Prince William Sound Regional Citizens Advisory Council (PWSRCAC)		
Rhonda Williams	williams@pwsrcac.org	907.834.5020
Joe Banta	Banta@pwsrcac.org	907.273.6222
Bob Benda	vsrfb@uaa.alaska.edu	907.834.1668
Jerry Brookman	brookman@alaska.net	907.283.9329
Bill Conley	conley@alaska.net	907.835.4921
John French	jsfrench@arctic.net	907.224.4429
Dan Gilson	gilson@pwsrcac.org	907.834.5040
Susan Harvey	sharvey@mtaonline.net	907.694.7994
Lynda Hyce	vnljh@uaa.alaska.edu	907.834.1667
Tom Jensen	jensen@pwsrcac.org	907.694.7717
Lisa Ka'aihue	kaaihue@pwsrcac.org	907.273.6225
Tom Kuckertz	kuckertz@pwsrcac.org	907.834.5050
Walter Parker	wbparker@gci.net	907.333.5189
Tony Parkin	parkin@pwsrcac.org	907.834.5030
Donna Schantz	schantz@pwsrcac.org	907.834.5070
Stan Stephens	stan@stepenscruises.com	907.835.2700
Richard Tremaine	tremaine@alaska.net	907.345.5813
Bill Walker	bill-wwa@ak.net	907.278.7000
Response Planning Group/ Alaska Tanker Company- advisory role		
Tom Colby	Tom.Colby@aktanker.com	907.835.5251
SERVS- advisory role		
Rod Hoffman	HoffmanR@alyeska-pipeline.com	907.834.6833

---- *continued on following page*

United States Coast Guard (USCG) - advisory role		
LT Cathy Huot	Chout@cgalaska.uscg.mil	907.835.7214
CDR Mark Swanson	maswanson@cgalaska.uscg.mil	907.835.7210
BM1 Floyd Young	Fyoung@cgalaska.uscg.mil	907.835.7219

** = ADEC participation is based on SRWG request for consultation*

SRWG Sub-groups

The SRWG identified seven (7) sub-working groups to analyze specific technical, regulatory and socio-economic issues related to the proposed project. A list of the seven sub-groups is provided below:

1. Crude Oil Storage and Movement;
2. Berth Facilities and Operations;
3. Fire Protection and Security Assets;
4. Air and Water Quality Impacts;
5. Socio-economic Issues;
6. Operations and Maintenance; and
7. Ship Escort Response Vessel Systems (SERVS) Reconfiguration.[2]

The resulting work products from the sub-working group meetings and subsequent deliberations form the basis for the comments provided in this document.

SRWG Website

In order to facilitate the workings of the SRWG, PWSRCAC created and now maintains a website for the exchange of information. Virtually all of the documents associated with the workings of the SRWG and subgroups are posted on the website. Readers of this document are invited to visit the website at: http://www.pwsrcac.net/sr.

[2] The SERVS Subgroup never met, because APSC claimed there would be no reductions in SERVS equipment or personnel as a result of the proposed SR Project.

Overall Considerations for NEPA Review

Importance of NEPA Review

The JPO's NEPA review of the Valdez Marine Terminal Strategic Reconfiguration Project is an important process. The SRWG is very interested in working closely with BLM (the lead agency) and the JPO in its entirety to review and comment on the proposed changes at the VMT.

If Done Right, the SR Project Can Result in a Tremendous Pollution Prevention Opportunity

APSC is proposing a number of major changes to the terminal which substantially alter the terminal infrastructure, operations, and functionality. The project will have a profound effect on the local community. If done right, the project can result in tremendous opportunity to implement pollution prevention alternatives, remove older, higher risk equipment from service, and renovate a facility which is almost three decades old. If done wrong, the project may increase the environmental risk and hazard for this aging facility, poorly equip and under-resource the design basis, and continue to ignore long-standing major air and water pollution problems at the facility. Only a transparent and collaborative NEPA process can yield the best results for this important project, and ensure valid citizen and agency concerns are addressed.

SR Provides a Unique Opportunity to Upgrade the Terminal and Decommission Older, Higher Risk, Higher Pollution Sources

Strategic Reconfiguration provides a unique opportunity to high-grade and up-grade the VMT to make it "fit-for-purpose," fit for the future, and an environmentally friendly industrial source. Strategic Reconfiguration likely represents the most significant changes to be made at the terminal for many years to come. Now is the time to thoroughly evaluate all relevant and related terminal modifications. The NEPA review is also important since it provides the only formal and significant opportunity for public involvement. While the BLM repeatedly tells the SRWG most of their concerns and issues can be addressed in a future permitting or public review process, the Environmental Assessment concludes few if any future permits are required and an Alaska Coastal Management Program (ACMP) is not required. The justification for not conducting an ACMP Review along with this project is not well explained in the Environmental Assessment.[3]

NEPA Review Must be Careful, Strategic and Complete

The SRWG does not agree that deferring comments to a future, unspecified and maybe non-existent public process is the best course of action. The time for laying out the key concerns is now. The NEPA process as established in federal law demands early and upfront evaluation of significant project impacts. It is not fair to the applicant to defer major concerns to a future timeframe. This approach could result in increased costs to the applicant and will only serve to leave great uncertainty in the project goals and

[3] BLM Environmental Assessment, Section 3.16.2, December 1, 2004 stated the ADNR has reviewed the proposed action and determined the ACMP review is not required as long as certain conditions are met, but does not explain what those conditions are or how they will be met. The lack of an ACMP review is confusing since several major approvals may be required for this project such as a PSD air permit, and an Army Corp of Engineers approval for the firewater dam construction.

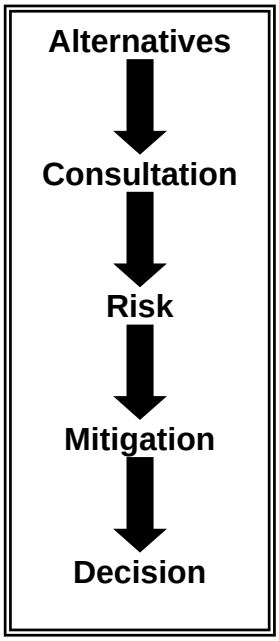
specifications, making development of a final engineering design package difficult. The NEPA review must be careful, strategic, and complete.

Transparency of Decision Making Process

Citizen stakeholders have been concerned Strategic Reconfiguration of the VMT may be driven almost entirely by cost saving criteria to the detriment of the environmental concerns of the citizen stakeholders. Since its reorganization in 2002, APSC has been engaged in a TAPS-wide exercise to reconfigure nearly every aspect of management, business, and operational practices. APSC has released some of its specific Strategic Reconfiguration plans for the VMT; however, many of the specifications (environmental, technical, business, regulatory, and otherwise) driving the engineering design are still tightly held by APSC. Consequently, standard quality assurance and quality control techniques cannot be used to by stakeholders or regulators to verify that designs for reconfiguration address stakeholder concerns and regulatory requirements. The SRWG was formed to proactively work with APSC and JPO to increase the transparency of the decision making processes associated with reconfiguration of the VMT. The SRWG can only be effective if information is provided, and the decision making process is transparent.

Decision Making Process is Not Transparent

Based on the number of issues, comments, and concerns identified in this report, it is clear many areas of concern arise directly from the lack of a transparent engineering design and planning process. More information is needed to understand if the proposed changes are environmental improvements or even if the environmental status quo is preserved. Information available in the Environmental Report and the Environmental Assessment are insufficient to discern whether or not APSC's plan is genuinely beneficial with respect to any stated criteria because of insufficient documentation and technical analysis. For example the Power Generation impacts and alternatives are not only a mystery to the SRWG group but do not appear to be well understood by the agencies. Additional information is necessary to encourage collaboration and to create a transparent process on all significant issues.



Is Strategic Reconfiguration Mature Enough for a *FONSI*?

The Draft FONSI is disconcerting since the basis for a *FONSI* is not well supported in the Environmental Assessment. NEPA requires an Environmental Assessment to provide sufficient evidence and analysis for determining whether to prepare an EIS or *FONSI*. Without sufficient information and analysis it is not possible to make the threshold determination whether a project will result in significant impacts. The information contained in the Environmental Assessment and *FONSI* are inadequate as a matter of law because they do not contain information or analysis sufficient to make the threshold determination. Agencies must demonstrate their decisions are not arbitrary and capricious by documenting their analysis and decisions in NEPA documentation.

Appendix A and Section 1.1.1 (Scoping and Consultation) of the Environmental Assessment provides no documentation to support consultations were conducted or requested with either the Environmental Protection Agency (EPA) or the Alaska Department of Environmental Conservation (ADEC)

on air quality, water quality or other environmental issues of importance to this project, as required by as required by 40 CFR 1500.1

In this case the SRWG finds the NEPA documentation fails to meet that standard of care.

The SRWG is very concerned the NEPA review process **does not**:

- Include transparent decision making;
- Satisfactorily identify all the alternatives including pollution prevention alternatives;
- Include adequate consultation and review with EPA and other important federal and state agencies;
- Identify and examine all the significant risks;
- Include an independent agency evaluation of all major environmental impacts and risks from the proposed project;
- Develop satisfactory alternatives, mitigation measures, or conditions of approval to mitigate the identified risks; and
- Ensure all conclusions are well documented and supported.

Environmental Assessment Does Not Support a *FONSI*

While the SRWG supports the proposed efforts to reduce environmental impacts to the air, water, and ecology of Valdez, the SRWG finds the Environmental Assessment to be incomplete and consequently insufficient to support issuance of a FONSI at this time. Issuance of a *FONSI* requires substantial additional information. The SRWG urges the BLM, as the lead agency, to take the time necessary to prepare a complete and thorough Environmental Assessment, in consultation with other federal and state agencies, such as the EPA, consider all the alternatives, identify all the significant risks and develop alternatives, mitigation measures or conditions of approval to mitigate the identified risks. Once that process is completed, then and only then, the can a FONSI be made or a full EIS examination required.

To support issuance of a *FONSI*, BLM must be able to document and explain that the impacts of the Strategic Reconfiguration of the VMT are not significant, with evidence (in the form of data, analysis, and information) articulated in the Environmental Assessment. Although the determination of "significance" under NEPA regulations can appear to be highly subjective, recent court decisions provide some guidance on how "significance" is determined. C*ontext* and *intensity*[4] along with accepted criteria, as described in the Environmental Report, must be considered in developing support for a *FONSI*.

The proposed FONSI does not stand up well to the ten intensity factors established by the Council on Environmental Quality (CEQ). In particular, SRWG finds the Environmental Assessment is insufficient to support a FONSI when compared against five of the ten accepted intensity factors, and will make a contested FONSI a very likely scenario:

> ***Degree of highly uncertain effects or unique or unknown risks*** – The Environmental Assessment does not present reliable alternatives to the seawater firewater system. The proposed freshwater system is fraught with unique risks which the SRWG finds unacceptable. The Environmental Assessment does not clarify the uncertain effects of massive personnel reductions, and the resulting

[4] 40 CFR § 1508.27 as referenced in *Determining "Significance" Under NEPA – Recent Court Decisions Highlight the Importance of "Context" and "Intensity"* by Jones and Stokes, Environmental Update, May 2003 (http://www.jonesandstokes.com/resource/NEPA-Significance.pdf)

impacts and risks associated with future inadequate levels of staffing, and ability to operate the facility and respond to a catastrophic emergency event at this remote facility. There are a number of unique and unknown risks associated with the electrical power generation options.

Degree of controversy – The SRWG supports any action aimed at optimizing operations while protecting the Valdez environment. However, there is a degree of controversy about how to address open issues which are historical, controversial, related, and well documented (but largely ignored) in the Environmental Assessment such as toxic air emissions from the Ballast Water Treatment Facility (BWTF), water pollution from the BWTF, treatment of segregated ballast water containing Nonindigenous Species (NIS), staffing issues, and remote control of the terminal. The SRWG can not accept a complete remodel of the VMT addressing every major component of the facility while ignoring any solution whatsoever to the BWTF which has been confirmed to be a major national source of toxic air and water pollution by the EPA. While the BLM seems to dismiss these controversial pollution issues by stating they are not required to consider these pollution prevention alternatives, since they were not proposed by the applicant, this response undermines the very core of NEPA which places a responsibility on the lead agency to judiciously examine all alternatives which will reduce environmental impacts associated with the project as a whole. Ignoring a pollution prevention alternative at this stage may adversely impact the economics or likelihood of its future implementation.

Toxic Air Emissions and Cumulative Water Pollution Issues Warrant Reconsideration

VMT is One of the Largest Sources of Benzene Emissions in the Nation

The NEPA Review Provides Little Benefit if Alternative of Real Environmental Values are Not Tackled

Precedent setting effects – The installation of internal floating roofs (IFR's) in a 250 ft diameter crude oil storage tank with 61 internal column seals under an existing fixed cone roof will be precedent setting. Even the Environmental Assessment identifies serious concerns regarding the risk of a fire, explosion or major spill associated with an IFR design.

Effects on public health and safety – Both Environmental Justice and socio-economic considerations including effect on Alaska Native hires were not fully explored in the Environmental Report and require additional analysis. Alaska Native hire is specifically required by Section 29 of the Agreement and Grant of Right-of-Way for the Trans-Alaska Pipeline (Grant & Lease) and needs to be addressed. Furthermore, the Environmental Assessment does not present a reasonable power generation plan that thoroughly examines the impact of increased air emissions on local communities by "out-sourcing" the power generating requirements to the local rural electric cooperative.

Cumulative effects – Although briefly defined in the Cumulative Impacts Section of the Environmental Assessment, several projects at VMT require additional review: expected changes to the BWTF, the increasingly serious issue of NIS in segregated ballast water, and overall power generation planning. These issues should be further evaluated and integrated into a revised Environmental Assessment or an EIS.

FONSI is not Supported By Environmental Assessment

Therefore, the SRWG finds it is premature to issue a *FONSI* with many questions and concerns regarding the proposed SR Project still unanswered.

Have all the Alternatives Been Identified?

An important part of the NEPA process is to fully consider project alternatives, with typically three alternatives considered: (1) no action alternative, (2) other reasonable courses of actions, and (3) mitigation measures.

No action alternative –The SRWG recognizes the need to upgrade and reconfigure the terminal so that it is a safe and effective facility for the future, and is not seeking "a no action alternative."

Other reasonable course of action –APSC's Environmental Report makes an initial attempt to review "other reasonable course of actions." However, BLM's Environmental Assessment offers no substantial technical analysis to consider other alternatives (see Section 2.4). The only alternatives considered in the Environmental Assessment were originally proposed by the applicant. The Environmental Assessment proposes or evaluates no other substantial alternatives, avoiding a fundamental step in the NEPA process. The lack of alternatives proposed and considered by the agency is critical flaw which frustrates the goal of a thorough NEPA review.

While the list below is not exhaustive, the SRWG requests the BLM consider, at a minimum, the following alternatives:

- Replace the vapor recovery system with a more efficient system to solve the combined emission problems associated with storage tank vapors, BWTF toxic emissions, and tanker vapors;
- Provide power generation alternatives which include use of non-polluting power sources such as the Power Recovery Turbine, low-sulfur emission sources, continued use of waste gas as a fuel source, or power supply to tankers when docked to reduce opacity events and sulfur emissions;
- Prioritize equipment to be removed from service based on environmental risk (e.g. selection of tanks and piping to be decommissioned based on corrosion and structural integrity history);
- Ensure appropriate personnel resource requirements;
- Provide alternatives to reduce fire, explosion, and major oil spill risks; and
- Ensure adequate firewater supply alternatives are available to provide more cost effective supply options without reducing fire response capability, such as using excess tank capacity for additional freshwater supply.

The EA Fails to Identify any Alternatives Beyond the Original Application

NEPA requires the whole action be considered in the description and analysis of a project. Failure to consider the whole action when examining project alternatives results in segmentation or piece-mealing of the environmental analysis. Segmentation of the analysis results in the true impact of the entire project being masked and trivialized. As a result, the draft FONSI has erroneously concluded there are no other alternatives, since the analysis has not ventured one step beyond the project proposed by the applicant.

Mitigation Measures –While BLM's Environmental Assessment offer 13 proposed mitigation measures, most of these measures are already required under another state or federal regulation, and the few measures proposed above and beyond current regulations do not set specific measures upon which compliance can be verified and enforced. NEPA regulations require agencies to include appropriate mitigation not already included in the proposed action or alternatives. The mitigation measures listed in Section 4.4 of the Environmental Assessment lack sufficient description to be observable. How does one know whether a mitigation measure has been implemented? How can one assess the extent to which a risk to the environment has been reduced, managed or has occurred? The mitigation measure must be observable and there must be some metric associated with judging effectiveness of implementation. The SRWG requests that the mitigation measures be better described so that (a) the mitigation measure is precisely defined; (b) the mitigation measure can be observed, and (c) the effectiveness of the mitigation measure can assessed.

Mitigation Measures in the Draft FONSI Do Little To Reduce Environmental Risk

For example, most of the proposed mitigation measures are already required under existing state and federal regulations or permits for the terminal. The following list of proposed mitigation measures does not reduce, eliminate, compensate or otherwise reduce the environmental risk or impact above and beyond what is already required by other agencies:

- Mitigation Measure No. 1 (contaminated soil remediation);
- Mitigation Measure No. 5 (fugitive emission control during construction);
- Mitigation Measure No. 6 (wetland delineation);
- Mitigation Measure No. 7 (use of silt fences during construction);
- Mitigation Measure No. 8 (water withdrawal restriction);
- Mitigation Measure No. 9 (cultural resource protection);
- Mitigation Measure No. 10 (communication with Department of Transportation during construction); and
- Mitigation Measure No. 13 (oil spill response plan updates).

Weaknesses in Mitigation Measures No. 2 and No. 3 are discussed in detail in Appendix D and weaknesses in Mitigation Measure No. 12 are discussed in detail in Appendix B.

Mitigation Measure No. 4 is an exception. This measure does provide an additional important requirement to install piezometers to monitor the ground water changes on the slopes above the terminal due to construction of the firewater system; however, the mitigation measure as currently drafted provides no standard by which to compare the collected piezometer data to an identified slope instability risk. While the requirement to install the piezometers is enforceable, there is no corresponding requirement to mitigate the actual risk once identified by the piezometers.

Mitigation Measure No. 12 requires a reclamation plan be submitted, but requires no enforceable timeframes, content, or reclamation objective be met to actually rehabilitate or restore the affected environment.

The SRWG has provided a list of specific mitigation measures for this project in the attached Appendices A-I, which are recommended for inclusion in the review and approval process. However, the general principals for establishing a quality mitigation measure are well laid out in the NEPA regulations at 40 CFR 1508.20 and include:

- Avoiding the impact altogether by not taking a certain action or parts of an action;
- Minimizing impacts by limiting the degree or magnitude of the action and its implementation;
- Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
- Reducing/eliminating impacts over time by preservation and maintenance operations; and
- Compensating for the impact by replacing or providing substitute resources or environments.

To be effective, the Record of Decision must also provide a comprehensive explanation if there are economic, social or other reasons why the mitigation measures and project alternatives are infeasible. For all mitigation measures proposed, the Record of Decision must establish clear and measurable standards for mitigating the risk, and specific measures for compliance determination and verification, including a statement to confirm if the lead agency (in this case BLM) is imposing the mitigation measure, or if the mitigation measure is the responsibility of another agency which can and will impose it.[5]

Was an Independent Technical Analysis Completed By the Lead Agency?

NEPA imposes an important set of responsibilities on the lead agency for conducting a NEPA review. Under 40 CFR 1506.5, NEPA requires the agency to independently evaluate the information submitted and be responsible for its accuracy. The agency must also make its own evaluation of the environmental issues and take responsibility for the scope and content of the environmental assessment.

Sec. 1506.5 Agency responsibility.

> *(a) Information. If an agency requires an applicant to submit environmental information for possible use by the agency in preparing an environmental impact statement, then the agency should assist the applicant by outlining the types of information required. The agency shall independently evaluate the information submitted and shall be responsible for its accuracy. If the agency chooses to use the information submitted by the applicant in the environmental impact statement, either directly or by reference, then the names of the persons responsible for the independent evaluation shall be included in the list of preparers (Sec. 1502.17). It is the intent of this paragraph that acceptable work not be redone, but that it be verified by the agency.*

NEPA Requirement to Independently Evaluate the Impacts on All Major Issues was Not Achieved

(b) Environmental assessments. If an agency permits an applicant to prepare an environmental assessment, the agency, besides fulfilling the requirements of paragraph (a) of this section, shall make its own evaluation of the environmental issues and take responsibility for the scope and content of the environmental assessment.

[5] The NEPA Task Force Report to the Council on Environmental Quality: Modernizing NEPA Implementation, September 2003.

The SRWG finds the Environmental Assessment did not provide an independent evaluation of all major environmental impacts and risk from the proposed project. In many cases, as explained in detailed in the SRWG attached issue specific Appendices, the agency did not provide its own evaluation of the environmental issues and take responsibility for the scope and content of the environmental assessment. Rather, too often the Environmental Assessment merely echoed the Environmental Report prepared by the applicant with very little independent evaluation of the alternatives, risks, or appropriate mitigations.

Pollution Prevention Alternatives Warrant Consideration

An important component of the NEPA process is to evaluate alternatives which take into account pollution prevention for the proposed project. The SRWG has reviewed the Environmental Report and finds little in the way of proposed pollution prevention alternatives for the Strategic Reconfiguration Project. Likewise, BLM's Environmental Assessment also appears devoid of any consideration of pollution prevention alternatives. Yet, the on-site power generation and treatment of oily ballast water have serious, known air and water quality issues that should demand consideration of pollution prevention alternatives in a bona fide NEPA process.

The SRWG recommends BLM review the January 13, 1993 Memorandum to all Heads of Federal Departments and Agencies, the President of the Council on Environmental Quality (CEQ) which restated the importance of incorporating pollution prevention into NEPA Documents.[6] Key points articulated in the guidance document include:

- Regulations require federal agencies to integrate the NEPA process with other planning at the earliest possible time to ensure decisions reflect environmental values, to avoid delays later in the process, and to head off potential conflicts.[7] The CEQ further states this mechanism can be used to incorporate pollution prevention in the early planning stages of a proposal.
- Prior to preparing an EIS, lead agencies are required to conduct a scoping process during which the public and other federal agencies are able to participate in discussion concerning the scope of issues to be addressed in the EIS.[8] While the SRWG appreciates BLM's efforts to conduct a scooping meeting in Valdez for this project, there was no discussion on pollution prevention ideas.
- A discussion of pollution prevention is appropriate in an Environmental Assessment.
- Pollution prevention measures which contribute to an agency's finding of no significant impact must be made part of the formal determination to ensure they remain enforceable requirements for the project.

The CEQ guidance concludes that pollution prevention provides both environmental and economic benefit and encourages agencies to consider pollution prevention principles in all NEPA planning and decision making.

[6] *Pollution Prevention and the National Environmental Policy Act*, Memo dated 01/12/1993 from M.R. Deland (http://ceq.eh.doe.gov/nepa/regs/poll/ppguidnc.htm)
[7] 40 CFR § 1501.2
[8] 40 CFR § 1501.7

The SRWG recommends the NEPA process fully explore the following set of pollution prevention ideas:

EPA Estimates 360 Tons of Hazardous Air Pollution is Emitted by VTM Every Year

- The BWTF is the largest remaining source of air and water pollution at the terminal, and an obvious target for pollution prevention opportunities such as air toxic emission capture and control;
- Segregated ballast waters contaminated with NIS could be stored and treated;
- The proposed power generation option eliminates a power generation system that currently collects waste gas and burns it as a fuel source to prevent pollution, and replaces this waste gas recovery system with a power generation system that makes no effort to use waste gases as a fuel source; alternative fuel efficient options should be examined; and

Over 11, 500 gallons of Oil are Discharged into Port Valdez Each Year

- Nearly ¾ of a barrel of oil is discharged into Prince William Sound on a daily basis with no plans cited in a recently (2004) renewed NPDES permit to eliminate the harmful cumulative discharges of over 11,500 gallons of oil per year into the port, additional water treatment options should be considered to limit Port Valdez water pollution.

Section 23 of the Agreement and Grant of Right-of-Way for the Trans-Alaska Pipeline requires pollution prevention alternatives to be reviewed at least every 5 years. As part of the review the JPO must work with APSC to:

BLM is Required to Examine Pollution Prevention Under the Grant Lease

> *"review and consider in depth: (1) the operation of the waste-water treatment facility; (2) such advances and improvements in water pollution control and waste-water treatment, technology and equipment, as they relate to the terminal facility, as have taken place; and (3) the feasibility of improving the performance of the facility through installation of new or additional equipment, or modification of existing equipment."*

The JPO environmental assessment of the proposed Strategic Reconfiguration Project provides an opportune time for JPO to complete the required Section 23 pollution prevention assessment for the BWTF. The SRWG is aware that the JPO has delegated enforcement and compliance monitoring of the Section 23 requirements to the Alaska Department of Environmental Conservation (ADEC). This delegation of enforcement and compliance authority does not however relieve JPO of its responsibilities to enforce the provisions of Section 23 should the agencies to whom compliance authority has been delegated fail to do so.

BLM Remains Responsible for Enforcement and Compliance if Delegated Authorities Fail To Address Cumulative Water Pollution at VMT

The SRWG encourages the BLM to embrace CEQs guidance to "act now to develop and incorporate pollution prevention considerations" for the Strategic Reconfiguration at VMT.

NEPA Review Needs to Examine Entire VMT

Just as APSC is reconfiguring all aspects of its operations, facilities, policies, and practices in its Strategic Reconfiguration of TAPS, the Environmental Assessment must consider the environmental ramifications of every asset at the VMT and how the various systems interact in their environmental performance. For example, the reconfiguration of the Ballast Water Treatment Facility (BWTF) has been removed from the current Strategic Reconfiguration Project. Why? The BWTF is critical to the movement of oil and will potentially remain so until 2015, the final OPA-90 phase-out date for single hull tankers assuming that the unverified premise that double-hulled tankers will have no need for on-shore processing of their ballast is valid. Neither the Environmental Report nor the draft Environmental Assessment articulates how one can be certain or even be reasonably assured that the expected environmental performance of the reconfigured facilities can be achieved without specifying their operational relationship to the performance of the BWTF. EPA requires that the BWTF 80's tanks be fitted with emission control; however, this important compliance issue is not even addressed in the proposal[9].

Section 1508.25 of the NEPA Regulations requires the scope of the NEPA review to consider three different types of actions: (1) connected actions, (2) cumulative actions, and (3) similar actions. While the SRWG recognizes the need to reconfigure the terminal for the future, it is concerned that APSC's Environmental Report and the BLM's Environmental Assessment only evaluate the impacts of a few discrete elements of the necessary reconfiguration and ignores the many "connected actions" and "similar actions" which warrant a more complete review under the NEPA process. APSC's Environmental Report seems to incorrectly categorize several "connected" and "similar" actions as cumulative effects, ignoring the fact that these projects are closely related, interdependent and when viewed with other reasonably foreseeable or proposed agency actions, have similarities that provide a basis for evaluating their environmental consequences as a whole rather than separately.

The NEPA review should consider projects such as the BWTF Modifications, Relocation of the OCC, Consolidation of Valdez Facilities and Operations, Installation of Ultrasonic Flow Meters, Installation of a Power Recovery Turbine, SERVS Reconfiguration, and Introduction of the Nonindigenous Species to be connected and similar actions due to their common timing and location with the currently proposed Strategic Reconfiguration Project elements. Yet the Environmental Assessment defers the evaluation of these important issues to an ill-defined future process.

Environmental Assessment must be Strongly Linked to TAPS EIS

An EIS was conducted for the TAPS Right-of-Way renewal in 2002. Many promises and assumptions pertaining to environmental performance of the various TAPS systems and their future operation were both explicitly and implicitly made. The Environmental Assessment recognizes the need to demand compliance with those assumptions, premises, and promises as part of the VMT Strategic Reconfiguration. The SRWG recommends the BLM specifically cite the EIS requirements as appropriate should it choose to issue any Notices to Proceed.

[9] 40 CFR 63, Subpart EEEE.

List of Issues, Comments, and Concerns Pertaining the EA

A list of issues, comments, and concerns was identified by the SRWG during the month of September 2004. This list was reported to JPO in October 2004 to assist it in developing its Environmental Assessment. This list was further refined by PWSRCAC staff in consultation with SRWG participants during the months of October, November, and December 2004. Issues which appear to have been settled in the draft Environmental Assessment or otherwise resolved in consultation with the experts have been omitted from this report. However, the SWRG has identified nine (9) major areas of concern which are outlined in a series Appendices listed as follows:

Appendix A	**Firewater System**
Appendix B	**Crude Oil Capacity**
Appendix C	**Personnel Resources**
Appendix D	**Internal Floating Roofs**
Appendix E	**Local Socio Economics**
Appendix F	**Power Generation**
Appendix G	**Vapor Combustion**
Appendix H	**Ballast Water Treatment**
Appendix I	**Operation and Maintenance**

References

1. "Assessment: Valdez Marine Terminal Reliability Centered Maintenance (RCM) Progress," prepared by Joseph Hughes, BLM Program Administrator, Joint Pipeline Office, April 2004.
2. "Final Environmental Impact Statement Renewal of the Federal Grant for the Trans-Alaska Pipeline System Right-of-Way," U.S. Department of the Interior Bureau of Land Management, BLM/AK/PT-03/005+2880+990, November 2002.
3. "Fire Hazard Assessment for Valdez Crude Tank Internal Floating Roofs," prepared for Alyeska Pipeline Service Company by Capstone Engineering Services, January 29, 2004.
4. "Future Storage Capacity at VMT," letter from Rod Hanson, Alyeska Pipeline Service Company to Commander Swanson, USCG, September 15, 2004.
5. "Renewal of the Agreement and Grant of Right-of-Way for Trans-Alaska Pipeline between the United States of America and Amerada Hess Corporation, ARCO Pipeline Company, Exxon Pipeline Company, Mobil Alaska Pipeline Company, Phillips Petroleum Company, Sohio Pipeline Company, and Union Alaska Pipeline Company," http://www.jpo.doi.gov/Renewal/TAPS%20Renewal%20Grant.pdf
6. "Request to Observe Strategic Reconfiguration of VMT," letter from PWSRCAC to Alyeska Pipeline Service Company, October 1, 2003.
7. "Review of Potential Firewater Storage Pond Site in Quarry at Valdez Marine Terminal," prepared for Alyeska Pipeline Service Company by Golder Associates, November 14, 2003.
8. "Storage Tank Concerns at the Valdez Marine Terminal," letter from Commander Swanson, USCG to David White, Alyeska Pipeline Service Company, July 28, 2004.
9. "Strategic Reconfiguration of the Valdez Marine Terminal: Environmental Report," prepared for Alyeska Pipeline Service Company by Oasis Environmental, August 2004.
10. "Strategic Reconfiguration of the Valdez Marine Terminal: Local Economic Effects Assessment," prepared for Alyeska Pipeline Service Company by Northern Economics, Inc., September 2004.
11. "Valdez Marine Terminal Strategic Reconfiguration Technical Report JPO No. VMT-04-E-001, An Evaluation of Usage of Internal Floating Roof Tanks," prepared by the Joint Pipeline Office, April 2004.
12. "Air Emissions from Ballast Water Storage and Treatment: Valdez Marine Terminal," prepared by Clark Allen of Research Triangle Institute for the U.S. Environmental Protection Agency Office of Air Quality Performance and Standards, Research Triangle Park, NC 27711.
13. "Assessing transport and exposure pathways and potential petroleum toxicity to marine resources in Port Valdez, Alaska," Final Report Prepared for Prince William Sound Regional Citizens' Advisory Council Contract No. 956.02.1, Payne, J.R., W.B. Driskell, M.G. Barron, D.C. Lees Prepared by Payne Environmental Consultants, Inc., Encinitas, CA, December 21, 2001. 64 pp plus appendices,

14. "Port Valdez Monitoring Report. Prince William Sound Regional Citizens' Advisory Council Contract No. 633.01.1," Salazar, M., J.W. Short, S.M. Salazar, and J.R. Payne. 2002, February 7, 2002. 109 pp plus appendices.

15. "Photoenhanced Toxicity of Aqueus Phase and Chemically Dispersed Weathered Alaska North Slope Crude Oil to Pacific Herring Eggs and Larvae," February 11, 2002, report prepared by Mace G. Barron for Prince William Sound Regional Citizens' Advisory Council contract 602.01.2, 30 pages including bibliography.

16. "Seismic Design Consideration for Crude Oil Storage Tanks at Valdez Marine Terminal", referenced in a November 17, 2003 report by Consultants Nyman and Honeggar.

17. Alyeska Pipeline Services Company, Prevention of Significant Deterioration Permit Application for the Valdez Marine Terminal Vapor Control Project, Submitted to ADEC on October 24, 1995.

List of Acronyms

ADCED	Alaska Department of Community and Economic Development
ADEC	Alaska Department of Environmental Conservation
ADNR	Alaska Department of Natural Resources
APSC	Alyeska Pipeline Service Company
AQ	Air Quality
AVV	Advocates for Victims against Violence
BACT	Best Available Control Technology
BAT	Best Available Technology
bbl	Barrels; equivalent to 42 gallons
BETX	Benzene, Ethylbenzene, Toluene, Xylene
BLM	Bureau of Land Management
BWTF	Ballast Water Treatment Facility
CEQ	Council on Environmental Quality
CO	Carbon Monoxide
CVEA	Copper Valley Electric Association
DAF	Dissolved Air Floatation
DOT	Department of Transportation
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ER	Environmental Report
FONSI	Finding of No Significant Action
gpm	Gallons per minute
HAPs	Hazardous Air Pollutants
IFR	Internal Floating Roof
JPO	Joint Pipeline Office
MACT	Maximum Achievable Control Technology
MW	Megawatt
NAAQS	National Air Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NESHAP	National Emission Standard for Hazardous Air Pollutants
NIS	Nonindigenous Species
NTP	Notice to Proceed
OCC	Operations Control Center
OLD	Organic Liquid Distribution

List of Acronyms, continued

O&M	Operation and Maintenance
PE	Professional Engineer
PRT	Power Recovery Turbine
PRV	Pressure Relief Valve
PSD	Prevention of Significant Deterioration
PSI	Pounds per square inch
PWS	Prince William Sound
PWSRCAC	Prince William Sound Regional Citizens Advisory Council
PWSCC	Prince William Sound Community College
RCM	Reliability Centered Maintenance
SERVS	Ship Escort Response Vessel System
SO_2	Sulfur Dioxide
SR	Strategic Reconfiguration
SRWG	Strategic Reconfiguration Working Group

Appendix A - Firewater System

Description of the Proposal

APSC is proposing to replace its existing seawater fire system with a fresh water system. The fresh water fire system will be created by diverting and damming a small stream into an old quarry above the VMT. Freshwater will then be gravity fed into the existing fire system piping. Existing pumps and other assets which currently pressurize seawater into the system will be decommissioned.

Existing Seawater Fire System

Existing seawater system is designed for 18,000 gpm responding to a full surface tank fire

The existing seawater fire system is capable of providing up to 18,000 gallons per minute (gpm) of seawater to the firewater system to fight a fire in the tank farm[1]. Seawater is used in combination with a foam system. The crude oil storage tanks are equipped with submerged injectors for combating fires within each storage tank. The fuel storage tanks, oil recovery tanks (80's tanks) and power plant day tanks are equipped with foam systems to fight fires. In addition, each tanker berth is protected by a 2,000 gpm seawater pump and a foam skid.

Proposed Freshwater System

The Environmental Assessment provides little information on the proposed freshwater reservoir design or capability.[2] The Environmental Assessment describes the proposed construction of a six (6) acre freshwater reservoir in an existing quarry above the West Tank Farm, supplied by Sawmill Creek and concludes there will be sufficient freshwater supplied by this reservoir, but provides no technical analyses to support the conclusion. Rather, the Environmental Assessment relies on APSC's claim that the freshwater capacity is sufficient to completely replace the seawater system. The Environmental Assessment states: "preliminary conceptual designs by APSC indicate that sufficient water can be stored to provide the requirements of the current firewater systems as well as the new facilities to be installed under SR."[3] The Environmental Assessment confirms the plan is to remove the "main, east, and west diesel firewater pumps." The berth firefighting systems will remain unchanged.[4]

While the Environmental Assessment lacks most of the technical details needed to understand the environmental risks and benefits associated with the proposed freshwater system, APSC's October 22, 2004 briefing to the SRWG sheds considerable light on the proposed project.[5] APSC assumes a full surface tank fire will not occur once the internal floating roofs (IFRs) are installed in the crude oil tanks, with a much smaller firewater system required to fight a rim seal fire.

[1] Environmental Assessment for VMT SR Project, Section 2.1.7, December 1, 2004.
[2] Environmental Assessment for VMT SR Project, Section 2.2.3, December 1, 2004.
[3] Environmental Assessment for VMT SR Project, Section 2.2.3, December 1, 2004.
[4] Environmental Assessment for VMT SR Project, Table 2-1, December 1, 2004.
[5] VMT SR Fire Service System Modifications Presentation by APSC to SWRG, October 22, 2004.

The proposed firewater reservoir is estimated to hold 390,000 bbls of freshwater, assuming it is completely full and in an available liquid state (no ice), consists of a 14-foot high dammed natural gravel reservoir, and is located above the West Tank Farm, with a planned delivery capacity of 10,000 gpm for up to 7 days without refill. Although APSC indicates a 7 day capacity exists, the SRWG calculations show this is not possible. For example:

390,000 bbl reservoir would only supply a worst-case fire for less than a day

- A flow rate of 10,000 gpm would drain the 390,000 bbl firewater reservoir in just over one day;
- A 7 day delivery capacity of 10,000 gpm would require 2,400,000 barrels of stored firewater (not 390,000 bbls); and
- The proposed 390,000 bbl reservoir would only be capable of supplying 1,625 gpm continuously over a period of 7 days, not 10,000 gpm.

APSC also provides no technical information to support the reduction in firewater planning volume requirements from the current volume of 18,000 gpm to 10,000 gpm.

APSC further concludes the installation of IFRs in the cone roof storage tanks will eliminate a majority of hydrocarbon vapors in the crude oil storage tanks and limit the most likely fire to the seal area, thereby substantially reducing the amount of adjacent tank cooling water required for firefighting. APSC estimates only 500 gpm is required for a period of 30 minutes to fight a seal fire. APSC maintains the proposed freshwater system is the "minimum design requirement based on full response to the largest credible single fire event." APSC estimates the 390,000 bbl reservoir is of sufficient volume to fight two sequential major fire events without refill, and allows for reduced capacity due to ice and slush in the reservoir during the winter season. Once the freshwater supply is exhausted, APSC estimates it will take anywhere from a week to a month to re-supply the reservoir.

APSC also plans to modify the foam system, reducing the amount of foam based on APSC's assumption that the worst case fire will be a rim seal fire (requiring less foam than a full surface fire). APSC's proposed system does not include the firewater or foam capacity to fight a full surface tank fire.

Proposed system is only designed for 500 gpm to respond to a rim seal tank fire

APSC commissioned a study of the fire hazard posed by IFRs in 2004, which was completed by Capstone Engineering.[6] The Capstone report concluded "…the level of safety and system integrity for a tankage system with IFRs, with appropriate safeguards in place, was equal to or greater than a system with cone roof tanks incorporating vapor recovery…" While Capstone does not find an increased risk associated with IFRs, the report does not conclude that installation of IFRs will eliminate the potential of a full surface tank fire from ever occurring. In fact, the Capstone report concludes the largest single credible fire scenario is a fire in a crude oil storage tank with a sunken internal floating roof. The report identifies several potential situations which could result in a

APSC's Fire Consultants confirm the worst-case fire scenario is a full surface fire associated with a sunken roof

[6] Fire Hazard Assessment for Valdez Crude Tank Internal Floating Roofs, prepared by Capstone Engineering Service, Inc. for Alyeska Pipeline Service Company, January 29, 2004.

sunken roof and possible fire or environmental release:

- Earthquake (roof hangs up on columns, crude oil up on roof);
- Excessive fill rate (potential sunken roof or pool fire);
- Turbulence during fill (roof hangs up on columns, crude oil up on roof); and
- Wax build up (roof hangs up on columns, crude oil up on roof).

Was an Independent Technical Analysis Completed by BLM?

The Environmental Assessment does not provide any reference demonstrating that an independent technical analysis was completed by BLM to ensure the proposed firewater system will provide sufficient, sustainable, and reliable firewater to respond to a worst-case tank fire at the terminal. The EA merely references the 2004 Emerald and Capstone Fire Hazard Reports prepared for APSC and a draft, incomplete report dated 8-23-04, entitled "VMT (Fresh) Firewater Supply – White Paper" (author is not indicated). The EA lacks a technical basis for approving the freshwater system. The SRWG does not agree the freshwater system, as currently proposed, is the best alternative for the VMT.

Major Issues of Concern

The proposed freshwater firefighting system does not provide sufficient firewater capacity to fight the worst case tank fire scenario which may occur at the terminal. The current seawater fire system provides a very high level of protection for the facility to fight a worst-case fire, and a near-infinite supply of water to fight a major fire for a prolonged period of time. The hazard has increased by installing the IFR, removing the subsurface foam systems from the tanks, and removing the inert vapor balancing system. Any proposed changes to the fire detection and protection systems should provide an equivalent level of protection to the existing system, which is world-class.

The proposed design leaves the terminal exposed to the risk of a full surface tank fire and no way to fight it.

The proposed freshwater system only provides sufficient water for response to a rim seal fire, leaving the terminal exposed in the event of a full surface tank fire associated with a sunken roof. Based on the experience of the SRWG fire consultants, it is unsafe to assume a full surface fire will never occur after IFRs are installed.

National and State Fire Codes require industrial facilities to be able to provide firewater at a flow rate capable of accommodating the equipment and systems required to respond to a major fire scenario. At a minimum, the VMT should plan for at least one full surface tank fire with enough firewater to protect adjacent and neighboring assets. One major tank fire can easily engulf an additional tank and create a multiple tank fire if there is insufficient water available to prevent a boil over or to protect assets with cooling water near the fire source.

A rim seal fire may be the "most likely fire scenario" at the terminal; however, once the internal floating roofs are installed, rim seal fires do not represent the "worst-case" fire scenario. While less likely, but not impossible, a full surface fire could occur during a seismic event, an act of terrorism or sabotage, or from a design or operational malfunction which causes the floating roof to sink.

VMT is critical to national security; the firefighting system must be designed commensurately

Emergency response planning for one of the largest oil terminals in the United States must include a firefighting system which is capable of responding to the worst case fire event possible. The terminal provides a critical supply of crude oil to the nation. During these uncertain times, in light of the terrorist events of September 11, 2001, and in recognition of the seismic potential in the Valdez area, it is not acceptable for a terminal to limit firefighting capability to rim seal fires, while ignoring the possibility of a full surface tank fire. It is also important to note the worst case scenario of an earthquake could not only result in a full surface tank fire, but an earthquake could also contribute to failure of the freshwater reservoir dam, compounding the inability to respond to a worse case tank fire during an earthquake event.

Protection of the physical assets of the VMT and the environment from the catastrophic effects of fire and explosions poses unique challenges found nowhere else in the United States. The Valdez Marine Terminal is located in a remote part of Alaska, 110 air miles and 300 miles by road from Anchorage- the nearest "large" city from which resources could be demanded for management of an incident. Large industrial tank fires (over 150' in diameter) in the lower 48 rely on industrial and municipal mutual aid as well as professional firefighting organizations such as Williams Fire & Hazard Control. It is unrealistic to expect significant industrial firefighting equipment or trained personnel to be brought into Valdez in the first few days of an incident, especially in winter, when flights can be grounded for days and the road can be impassable. Appropriate firefighting equipment, personnel and supplies must be on scene and ready to respond.

Will there be enough firewater?

The proposed freshwater system is designed to hold 390,000 total barrels (bbls) of water. In the winter months the capacity could be as low as 300,000 bbls due to ice and slush formation in the reservoir. APSC estimates as much as 4 ft of the 14 ft reservoir could ice over in winter.

The SRWG fire experts conclude a total minimum firewater flow rate of 18,000 gpm[7] at a residual pressure of between 125-150psi must be available to provide the emergency response organization with enough firewater capacity at necessary pressures to deal with the worst-case scenario fire situation of a full surface fire in a 250 ft diameter crude oil tank, plus additional water to cool the surrounding exposed assets.[8] At 18,000 gpm, the 390,000 bbl firewater reservoir will be depleted within approximately 15 hours. If the firewater system capacity is reduced to 300,000 bbls due to ice, the reservoir provides less than 12 hours of firewater.

Timing is critical in responding to a major oil storage tank fire, experts and additional firefighting resources cannot be brought into remote Valdez in time to prevent a boil over. The only chance of controlling a major full surface tank fire is to provide cooling water to prevent tank boil over, and extinguish the fire using large quantities of water and firefighting foam. Extinguishing the fire is the only way to prevent the thermal heat wave from traveling down through the crude oil to the water bottom. In crude oil tanks that are burning the thermal heat wave can move downward through the crude oil at a rate of from one to four feet per hour. If the fire is not extinguished, the thermal heat wave will reach the water bottom and a boil over will occur. In the best case scenario (full tank, low water content), there may be

Proposed freshwater reservoir only holds enough water to fight a catastrophic tank fire for 15 hours

[7] 12,000 gpm for tank fire and 6,000 gpm for exposure protection.
[8] Technical expertise provided by Tony Semenza and Bud Slye, December 22, 2004.

about two days to prevent a boil over.[9] In worst case scenario, the fire team may only have 12-30 hours available to prevent a boil over[10].

While APSC describes the freshwater system as containing 390,000 bbls total capacity with the capability to sustain a flow rate of 10,000 gpm for 7 days without refill, we are unable to duplicate this estimate. A sustained flow rate of 10,000 gpm for 7 days would require a reservoir capacity of 2,400,000 bbls not 390,000 bbls. At a sustained flow rate of 10,000 gpm the reservoir would only provide a one day supply of firewater.[11]

It could take weeks to refill an exhausted freshwater supply

Once the freshwater supply is exhausted, it will take days to weeks depending on the seasonal creek flow rate and local precipitation to refill the reservoir, leaving the terminal exposed to prolonged intervals where the firewater system may be exhausted with inadequate refill capability. Should a second fire occur while APSC is attempting to replenish the freshwater supply, the facility could be seriously exposed to a major fire situation. APSC has confirmed the seawater pumping system will not be in place for use as a backup system in case the freshwater reservoir runs low. The advantage of the seawater systems is there is a near-infinite supply of available water.

The risk posed by insufficient firewater capacity could be substantially mitigated by using the West Tank Farm tanks (slated to be removed from oil service) for firewater storage. This option could more than double the proposed reservoir storage of fire water.

<u>Recommendation</u>: To ensure there is sufficient firewater capability to respond to a worst-case tank fire scenario, the SRWG recommends a mitigation measure which requires a sustained firewater capability equivalent to the existing system capable of providing at least 18,000 gallons per minute for a sufficient period of time to respond to the worst-case incident at the VMT.

Will there be enough foam?

APSC plans to modify the foam system and reduce the amount of available foam based on APSC's assumption that the worst case fire will be a rim seal fire (requiring less foam than a full surface fire). There is no information in the EA to explain the magnitude of this proposed design change or how it might potentially impact APSC's ability to fight a worst-case fire.

Proposed Foam System Modifications may underestimate the amount of foam required

The Capstone report concluded "…it would be unacceptable to convert the crude tanks without providing fixed foam fire protection" and strongly recommended rim seal protection and column seal protection. There is no information in the Environmental Assessment to indicate whether or not rim seal protection and column seal protection will be installed or if there is a sound technical reason for not installing the additional protection. APSC personnel have indicated in their presentation to the SRWG that there are no plans for protection of column seals.

[9] Assumes a 48' tank, with a 6" water bottom, full of oil, with the thermal heat wave traveling at 1 ft/hr.
[10] Assuming thermal heat waves traveling 1-4 ft/hr.
[11] However, it is not clear if APSC plans to supplement the firewater reservoir with portable pumps to increase the firewater capability during an actual event.

The internal floating roofs planned for the crude oil storage tanks will require new internal fire systems because the existing foam spider system installed inside the tank would be ineffective in extinguishing a tank fire in a tank equipped with an IFR. The tanks will also require new fire detection systems to be installed capable of detecting tank fires and explosive vapor build-up.

Recommendation: To ensure there is sufficient foam capacity to respond to a worst-case tank fire scenario, the SRWG recommends a mitigation measure which requires sufficient foam capacity and the equipment necessary to respond to a full surface tank fire and installation of both rim seal and column seal protection systems. Each crude oil storage tank should be equipped with a system that supplies the proper amount of finished foam and includes redundant sensor systems for detecting tank fires and explosive vapor build-up. The sensor and foam systems should be interfaced for control purposes with automated and manual systems for fire suppression. Each tank should also have dedicated systems for removing and incinerating any build-up of explosive vapors occurring above the roof (caused by seal failure) and below the roof (caused in a vapor space formed by a "landed" roof).

How will high water pressures be handled?

The proposed freshwater system will deliver water to the firewater system at approximately 200 psi and may reach upwards of 250 psi. The firewater reservoir will only be usable if the terminal system is designed to operationally accommodate the high pressure water supply. High water pressure will adversely impact the ability to produce high quality foam. The high pressures in the fire systems at the VMT are related to the elevation differences throughout the facility. While APSC has recommended addressing the problem with some custom designed pieces of firefighting equipment, the SRWG is concerned this custom-designed equipment will have very limited commercial availability and may result in an inability to obtain spare parts in a timely manner. Previous audits have revealed the VMT firewater system is not designed to operate in excess of the original piping system design and material limitations. Is not clear how the VMT firewater system will withstand long-term operation at pressures above its design. The SRWG is also concerned that the high water pressure system, as a non-standard firefighting method, will require specialized firefighter training. The Environmental Assessment does not provide any information to explain how this technical problem will be addressed.

Recommendation: To ensure the firewater system design will accommodate water delivery pressures of approximately 200 psi, the SRWG recommends a mitigation measure which requires APSC to verify that the firewater system design will withstand continued operating pressure in excess of piping system design and materials limitations and requires APSC to physically demonstrate the performance, reliability, and compatibility of the freshwater system with both the terminal firewater piping and delivery system and the Valdez Fire Department equipment prior to decommissioning the sea water pump system.

Is a freshwater system reliable in sub-arctic conditions?

Freshwater Systems May Plug with Ice and Debris Rendering the System Useless

There is no discussion in the Environmental Assessment about how the freshwater system will be designed to withstand the sub-arctic weather conditions of Valdez, Alaska. For example, pressure relief systems may build up sufficient volumes of ice during the winter and impair proper system functionality. Ice forming on the reservoir during the winter may significantly decrease the amount of water available for a fire. Other

components of the proposed system need to be similarly evaluated for proper functioning during the winter, such as insulated piping and heat tracing.

The Environmental Assessment evaluated the proposed alternative of using the extra storage tank and dike capacity which would be made available when the West Tank Farm is removed from oil service; however, the Environmental Assessment concludes this was not a viable option due to operational complexity and costs of keeping the water supply from freezing.[12] Yet, the EA does not provide any explanation of why it is more expensive or operationally complex to use a man-made tank for freshwater storage instead of or in addition to a natural freshwater storage basin.

The SRWG fire consultants are also very concerned the proposed freshwater fire system design currently includes only one supply line from the reservoir to the fire water distribution piping. It is not clear what, if any, system design changes are planned to prevent ice or debris from plugging the line. If the inlet to the line from the reservoir became plugged with debris or ice, water flow would stop almost immediately. During winter conditions, when the reservoir has a layer of ice several feet thick, it might be impossible to clear the line, resulting in a completely inaccessible firewater system.

Recommendation: To ensure the firewater system design is properly designed for sub-arctic conditions, it is recommended BLM require the final design be approved by a Professional Engineer Civil Engineer licensed in the State of Alaska.[13] The design should include, at a minimum, redundant supply lines to feed water to the fire piping distribution system; design to eliminate debris and ice from plugging the supply lines, and use of additional storage tank capacity to provide freshwater volume necessary to respond to a worst-case tank fire.

Should intermediate dikes be considered?

Intermediate dikes are recommended for the purpose of containing spill fires and liquids from overflow or boil over events. The intermediate dikes are a requirement of NFPA 30, Flammable and Combustible Liquids Code. The dikes can be earthen dikes or can consist of swales and grading arranged to prevent liquid flow from one tank to another which allows for early fire suppression of the spill fire before the adjacent tank can be exposed to a ground level fire.

Recommendation: The SRWG recommends BLM investigate the use of intermediate dikes as an appropriate fire containment method.

Will a freshwater reservoir impact fish habitat?

Although it is well known both pink and chum salmon spawn and rear in the lower reaches of Sawmill Creek, the Environmental Assessment comes to the surprising conclusion "no impacts to fish resources are expected from the proposed changes to the VMT facilities and operations, except that modification of the VMT firewater system will entail the temporary diversion of water from Sawmill Creek."[14] Even APSC's Environmental Report acknowledges a serious potential for obstruction of fish movements in freshwater rivers and streams, and the potential for alteration of freshwater fish habitats and the recently obtained Alaska Department of Natural Resources

[12] Environmental Assessment for VMT SR Project, Section 2.4, December 1, 2004.
[13] Because Alaska's licensing program requires demonstration of specific education in Arctic Engineering design.
[14] Environmental Assessment for VMT SR Project, Section 4.1.7, December 1, 2004.

(ADNR) permit requirement for water withdrawal from Sawmill Creek allows 100% of the creek to be diverted to obtain firewater during an emergency event

While the Draft Record of Decision proposes Mitigation Measure No. 8, which is merely a re-statement of the ADNR permit requirement for water withdrawal from Sawmill Creek, the Environmental Assessment and Draft FONSI are silent on what will happen if the restricted flow rates required by ADNR do not provide sufficient firewater. How will need for an adequate freshwater firewater supply be balanced against the need to protect fish resources once the seawater firewater system is decommissioned? Will there be drought years which will require the ADNR permit restrictions to be waived to supply firewater, resulting in a direct and significant unmitigated risk to fish resources, because of a lack of an alterative firewater source?

Recommendation: To ensure the proposal for a freshwater firewater system design does not significantly impact the important local fish habitat. The Environmental Assessment should provide an alternative method for refilling the freshwater reservoir in drought years without waiving the ADNR permit restrictions. The BLM should also consider adding monitoring requirements to the proposed Mitigation Measure No. 8 to monitoring the currently established water withdrawal rate, examine the impact on the fish population, and determine if any revisions are required to further restrict water withdrawals from Sawmill Creek.

Appendix B – Crude Oil Storage Capacity Reductions

Description of the Proposal

APSC is proposing to significantly reduce the crude oil storage capacity at the terminal. The total number of storage tanks will be reduced from 18 to 12 by 2007. APSC proposes to remove from service and isolate up to 4 tanks in the West Tank Farm and associated facilities, and up to 2 tanks in the East Tank Farm. The remaining 12 tanks will be equipped with internal floating roofs (IFR).The working inventory of each tank will be 459,000 bbls with a total capacity of 5.5 million barrels.

APSC estimates the crude oil storage capacity reduction can be accomplished without a significant change to the historical risk of pro-rations.[1] APSC's Environmental Report states:

> *"Modeling of production, storage, and marine fleet operations was conducted to consider a range of possible options for removing crude oil storage tanks from service. This modeling demonstrated that the number of tanks may be reduced from the current 18 to 12 with IFRs by 2007 without a significant change to the historical risk of pro-rations among ships or other inventory instability issues."*
>
> *"The terminal was designed to load tankers and to provide the storage capacity in TAPS to allow production on the North Slope to operate without impact-related delays from the marine transportation system."*[2]

On December 17, 2004, APSC met with the SRWG to review the crude oil storage tank capacity reduction basis and alleviate the concerns identified by the SRWG in its October 2004 comments to BLM on storage capacity and in Commander Swanson's July 28, 2004 letter to David Wight, APSC, regarding the need for adequate storage capacity.

APSC Confirms 12 Tanks is Sufficient to Meet Owners Needs

While the SRWG supports the idea of up-grading aging tanks and pipelines, selecting the most structurally sound equipment to remain in service, and decommissioning problematic equipment, the SRWG is concerned whether or not 12 tanks and associated facility piping will provide sufficient storage capacity to meet the North Slope production needs and address foul weather storage and security delays without taking unnecessary risks.

At the December 17, 2004 meeting, APSC representatives presented information showing an average of 3.3 days of storage available by 2008 with 12 tanks in operation with IFRs.[3] They compared the 3.3 days of storage to only 1.75 days available back in 1990 at higher throughputs. APSC also presented data which indicated the longest single loading delay experienced in the last 11 years was 80 hours, and noted there were only 2 delay events exceeding 50 hours in the last 11 years. They estimate a 1% chance of a weather related pro-ration with a working inventory at the terminal of approximately 2 million barrels. APSC also confirmed their estimate included

[1] Alyeska Pipeline Service Company SR Environmental Report, August 2004, p. 2-14.
[2] Alyeska Pipeline Service Company SR Environmental Report, August 2004, p. 2-1.
[3] This estimate assumes inventory levels similar to the average inventory experienced in year 2003.

increased security down-time associated with nationally imposed security delays since September 11, 2001.

APSC also confirmed the decommissioned tanks will not provide additional waste management storage for oil spill waste nor are they required for depressuring TAPS (beyond the 50,000 barrel capacity required in relief tanks 1 and 3).

In response to the SRWG's concern that less tank capacity means less flexibility in taking tanks out of service for inspection, maintenance, and repair, APSC plans to complete a full API 653 internal inspection prior to installing the IFRs. However, APSC intends to request extensions to tank inspection intervals beyond the 10 year interval recommended by API 653. Inspection deferrals as long as 20 year intervals were mentioned.

APSC points to their cold shut-down plan as the solution for preventing re-start problems if the TAPS is shut down for multiple day periods. APSC confirmed the project economics will not support IFR's for 18 tanks. The project only becomes attractive if the West Tank Farm is decommissioned, which will remove 4 tanks from service. The remaining 2 tanks likely to be decommissioned are tanks 9 & 10, since there is a cost savings associated with decommissioning the independent fire and power systems associated with these tanks.[4]

Was an Independent Technical Analysis Completed by BLM?

JPO Estimates 12 Tanks Will Result in Pro-rations

While APSC is confident 12 storage tanks provide sufficient storage capacity, an independent technical analysis completed by JPO-BLM in July 2004 does not agree.[5] The report confirms 12 tanks would not have provided adequate storage to handle 2004 inventory levels. BLM concludes: "…fewer storage tanks will reduce APSC's ability to manage imbalances in TAPS throughput and may increase the risk of pro-rationing."[6] The Environmental Assessment concludes that the elimination of up to six crude oil storage tanks may reduce the potential for a large oil spill without adequate explanation of how the risk is reduced and how much risk is eliminated.[7]

Major Issues of Concern

APSC's December 17, 2004 presentation on crude oil storage tank capacity alleviated many concerns and increased the transparency of the decision making process. APSC's efforts in this respect are appreciated; however, there remain a few issues of concern.

Will shipping and O&M waivers be requested due to capacity constraints?

While the SRWG is pleased to hear APSC does not expect to encounter significant tank capacity issues with 12 tanks, the SRWG is concerned the Owners may be unwilling to accept a pro-ration if the 12 tank capacity is insufficient as predicted by BLM. The SRWG remains concerned the

[4] All other tanks units are groups in units of 4 tanks. (tanks 1-4, tanks 4-8, tanks 12-14).
[5] Valdez Marine Terminal Strategic Reconfiguration Technical Report JPO No. VMT-04-E-002: An Evaluation of Inventory Storage Capacity, prepared by the Joint Pipeline Office, July 2004.
[6] Environmental Assessment for VMT SR Project, Section 4.1.20.2, December 1, 2004.
[7] Environmental Assessment for VMT SR Project, Section ii, December 1, 2004.

Owners may, in the future, request agency waivers to expand the shipping windows to increase tanker transits in foul weather, or delay important tank inspection, repair, or maintenance. Therefore the more important risk to the public and the environment is not whether the pro-rations will occur, but whether or not the Owners will accept the pro-rations resulting from their decision to maintain a reduced number of operational storage tanks, or whether the Owners will increase environmental risk by requesting relief from regulatory agencies during extended pro-ration events. APSC's Environmental Report appears to assume that the likelihood of a pro-ration is small, thereby precluding but not eliminating the likelihood of a waiver request.

The SRWG continues to be concerned about increased oil spill risks associated with limited tankage and facility piping and the ability to inspect, maintain, and repair the equipment with limited capacity flexibility and the potential environmental risk associated with foul weather marine transits.

Recommendation: To ensure there is sufficient tank capacity retained at the terminal, to prevent moving oil in marginal marine weather conditions, and to allow adequate time to conduct tank inspection, maintenance, and repairs, the following mitigation measure should be implemented: The total minimum oil storage tank capacity must be equivalent to the annual average actual daily throughput of the TAPS, plus additional volume to account for the previous 10 year historical downtimes associated with marine related weather and security delays and tank inspection, maintenance, and repairs, plus the additional oil storage capacity required to de-pressure/de-inventory that portion of TAPS from Thompson Pass to the VMT in the event of an oil spill or other incident requiring 100% pro-rationing at Pump Station 1. APSC should be required to compute the required oil storage tank capacity as described above, and submit this computation to the JPO for approval prior to decommissioning any oil storage tanks. Oil storage tanks may not be decommissioned if their storage capacity is required to meet this minimum capacity requirement.

JPO's approval of the Strategic Reconfiguration Project should clearly indicate, with specific conditions of approval, that the Owners should not request nor expect that marine shipping waivers will be approved for shipping delays associated with foul weather, important tank inspections, repair or maintenance.

Have all options been explored for use of available capacity?

Pollution Prevention and Risk Mitigation Alternatives Should be Explored

The SRWG remains concerned that the use of potentially decommissioned tanks has not been fully explored for pollution prevention options (e.g. NIS treatment, BWTF efficiency improvements, or for oil spill waste management strategies[8]) or for additional freshwater firewater storage capacity (see also Appendix A comments on the firewater system). These inter-related issues need to be addressed.

Recommendation: Prior to final approval, APSC should be required to provide BLM with a technical report which explores use of the decommissioned crude oil tanks for alternative uses. BLM should confirm whether or not there are appropriate alternative uses for these tanks which

[8] Especially for immediate storage during the early days of an oil spill before a tanker of opportunity is available.

will reduce pollution, environmental contamination, or provide additional risk mitigation though increased fire water supplies.

If it is determined there is no future use for these tanks at the terminal, BLM should require the tanks to be cleaned and sealed with a written plan submitted for BLM approval to remove the unused tanks from the tank farm. At a minimum, the plan should address improvement of the visual aesthetics of the terminal area and detail the safe removal of any potentially contaminated soils.

Can environmental risk be reduced by implementing a ranking criteria and technical review of tanks selected to be removed from service?

Remove Highest Risk Tanks First

The Environmental Assessment does not examine the alternatives associated with selecting the highest risk tanks to be removed from service first. Environmental risk reduction can be achieved by developing an appropriate environmental risk ranking criteria for determining which tanks and pipelines to remove from service first based on corrosion history, leak detection capability, inspection, and maintenance history and structural integrity.

<u>Recommendation</u>: Prior to final approval, APSC should be required to provide BLM a technical report which ranks the environmental risk associated with the 18 storage tanks to confirm the Tanks 9-10 in the East Tank Farm, and Tanks 15-18 in the West Tank Farm pose the highest environmental risk and are the most appropriate for priority decommissioning.

Appendix C – Personnel Resources

Description of the Proposal

APSC is proposing to significantly reduce the number of personnel at the terminal; however the SR Project Application for NEPA review provides no quantitative data for the agency to make a determination on the environmental risk associated with the proposed staff reductions.

No Data is Provided by Applicant

No information was provided by the applicant on the proposed staffing level reductions in either APSC's Environmental Report or APSC's Local Economic Effects Assessment Report.

Was an Independent Technical Analysis Completed by BLM?

The Environmental Assessment is remarkably silent on the environmental risk posed by insufficient human resources to manage a serious incident. In fact, the only staff reduction estimate even cited by BLM in the Environmental Assessment is based on the Anchorage Daily News's speculation that 350 jobs may be lost as a result of the SR Project.[1]

Draft EA Analysis is Incomplete and Unsubstantiated

The Environmental Assessment incorrectly states the Valdez Marine Terminal Oil Discharge Prevention and Contingency Plan, CP-35-02, only requires APSC to have a total of 30 VMT trained responders[2] available at any time, when the plan actually requires 78 initial responders to a worst case scenario ramping up to over 100 within the first day of the response.

Absent any reliable, quantitative data from the applicant, and absent any thorough technical examination of the adequacy of human resources to manage a serious incident, the Environmental Assessment comes to an unsubstantiated conclusion there will be no significant impact to the environment as a result of the SR project.

Major Issues of Concern

One of the most important and highest priority concerns of the SRWG is whether there will be adequate staffing levels at the VMT post-SR. The cornerstone of safe, efficient, and environmentally responsible operations is a well trained, competent, and experienced staff. Inadequate staffing levels could result in catastrophic environmental events. The terminal must be adequately staffed for the safe movement of crude oil, which includes the need for appropriate personnel to manage the day-to-day operations, carry out all the required inspections, perform maintenance and repairs, respond to emergency events, and manage all the local, state and federal regulatory responsibilities. Thus, the adequacy of human resources is a priority issue which must be addressed before a FONSI is made.

BLM Must Verify There Will Be Sufficient Human Resources to Mount an Effective Emergency Response

[1] Environmental Assessment for VMT SR Project, Section 4.1.13.1, December 1, 2004.
[2] Environmental Assessment for VMT SR Project, Section 2.1.8, December 1, 2004.

The adequacy of human resources has become a major concern of the SRWG because there has been little or no information provided by APSC on the proposed staffing levels post-strategic reconfiguration, and there has been no review or analysis completed by the agencies to verify or alleviate the SRWG concerns. The silence on the part of both the applicant and the agencies on the magnitude of the job reductions, and the potentially catastrophic impacts associated with inadequate human resources to mount an effective emergency response to a fire, explosion, or major oil spill, only serve to escalate the SRWG's concern.

Absent any credible data to support an alternative conclusion, the SRWG is left to conclude the staff reductions planned as part of the SR Project may result in a significant and unacceptable risk to the environment by reducing the staffing level below the level required to mount an effective response to a worst-case emergency scenario at the terminal. The Environmental Assessment must be revised to demonstrate an effective response to a worst-case emergency scenario at the terminal can be conducted post-SR.

Will sufficiently trained and qualified resources remain available to safely operate the terminal and respond to an emergency event?

Alyeska needs adequately trained and qualified personnel to simultaneously manage an emergency incident at the VMT and also shut down and/or run ongoing operations. Properly trained personnel must be on-site at VMT when an incident occurs. Adequate staff must be available to rapidly implement emergency response plans for many different pre-defined disaster scenarios.

Because APSC has not provided quantitative data describing the number and type of positions to be eliminated, there is no assurance that adequate numbers of trained personnel will be available in the event of an incident. APSC personnel have varying levels of training, particularly in using APSC fire suppression equipment. Technicians and plant operator positions provide the "back-bone" of the core emergency response and fire fighting teams. APSC has invested a tremendous amount of time and money to train emergency response personnel. It will take years of training to replace the expertise of many of highly qualified and trained emergency response personnel if positions are indiscriminately eliminated. It is not clear the extent to which emergency management training is among the criteria for personnel retention after reconfiguration is complete. The "urban" schedule of 40 hours per week may further exacerbate the lack of emergency response personnel available at the terminal to respond to an incident in the "off-hours," because swing, night, and weekend shifts would not be staffed as heavily as the day shift.

BLM must Verify Adequately Trained and Qualified Personnel Are On-site

The SRWG is also concerned that SR will result in fewer people doing more work at the terminal or some personnel will be moved away from the terminal to do work "off-site." With fewer personnel "doing more with less" there is a concern pressures will build to defer necessary future training. In addition, already over-loaded on-site personnel may have considerably less enthusiasm to be trained for additional emergency duties.

The SRWG is concerned the planned relocation of the Operational Control Center to Anchorage will result in a significant reduction in the number of round-the-clock operational personnel on-site. It is unreasonable to assume trained and qualified personnel can be brought from Anchorage to Valdez in a timely manner to rapidly respond to a major industrial fire or explosion.

The Environmental Report and Environmental Assessment are silent on the extent to which automation will replace or can replace human resources at the VMT. Although automation of facilities and operations may reduce the number of personnel needed for daily operations at the VMT, there will be some de minimis level below which APSC cannot meet its operational and environmental responsibilities during response to a major emergency. It is unreasonable to assume automation can adequately replace key trained and qualified emergency response personnel without an appropriate technical review. Yet, both the Environmental Report and the Environmental Assessment are silent on this issue.

Will sufficiently trained and qualified resources remain available on-site to respond to a major industrial fire?

The SRWG fire consultants recommend 18 trained on-site emergency responders as a minimum standard for responding to a major industrial fire situation at VMT within the first ten minutes. These 18 responders should be trained to at least National Fire Protection Association (NFPA) Level 600 for Industrial Fire brigades. Incident Command Staff should be trained to at least a National Interagency Incident Management System (NIIMS) Level 300. There also must be a credible plan which provides for the deployment of additional responders within the next few hours to support the initial first responders should the incident be of major consequence.

A Minimum of 18 Qualified Firemen Are Needed On-site

Eighteen trained emergency responders will allow the Emergency Response Team to set up an Incident Management System with an individual serving as an Incident Commander and an individual serving as a Safety Officer. In the event of a fire it is necessary to have a minimum of two fire engines and enough personnel available to put the appropriate fire fighting equipment (i.e. large flow rate nozzles, large diameter hose, hose teams, etc.) into operation quickly.

Increased reliance on the Valdez Fire Department is not realistic

Increased reliance on the Valdez Fire Department (VFD) to either assist APSC personnel or become the primary incident manager appears to be implied as part of SR. The VFD is not equipped or trained to be a primary emergency responder to a major industrial fire, explosion, or other catastrophic event at the terminal. A facility with the national importance of the VMT must have commensurately trained and qualified industrial firefighters and emergency response personnel to respond to and mitigate the national security impacts and the environmental impacts associated with a major emergency response at the VMT.

The Local Fire Department for a Community of 4000 People is Not Equipped or Qualified to Respond to A Major Industrial Incident at the Nation's Largest Terminal

It would be reasonable to assume the VFD and some local emergency response personnel may be recruited by APSC to assist in the response; however, it is not realistic to assume the local fire department from a community of 4000 people, located over 30 minutes away, is trained and qualified to provide a timely and fully capable emergency response brigade to respond to a major industrial incident at one of the nation's largest oil terminals. Except for one "mutual aid" exercise conducted 3 years ago, there have been little if any joint training exercises between VFD and APSC regarding the management of emergency incidents at the VMT. And as described in the firewater section, the proposed freshwater

firewater supply pressure is incompatible with VFD's equipment, rendering it useless in a response.

The APSC fire brigade has always been the de facto primary responder for the terminal in the past and must retain that responsibility. Consequently, it is not reasonable for the Environmental Assessment to assume implicitly or otherwise, that VFD will be the primary responder without a full exploration of the safety, health, and environmental risks of such an assumption.

Oil Spill Response Capability Must Not Be Compromised

While the Environmental Report states oil spill response capability will not be impacted by the Strategic Reconfiguration project, the SRWG remains concerned that reduction in personnel stationed at the terminal and major changes to facilities and available infrastructure may have some impact on spill response capability.

The Environmental Assessment incorrectly states the Valdez Marine Terminal Oil Discharge Prevention and Contingency Plan, CP-35-02 only requires APSC to have a total of 30 VMT trained responders available at any time.[3] The SRWG oil spill consultants have reviewed the worst-case oil discharge scenario in the plan and find APSC has determined 78 trained oil spill response personnel would be required within the first hour, ramping up to over 100 people within a 24 hour period.[4] This number of personnel would be required to man a full Incident Command Structure, implement safety measures, protect the environment, and commence on-shore and off-shore containment, control and cleanup operations. The oil spill plan also lists specific training requirements for these personnel, which must be met. Clearly a FONSI based on an assurance that 30 personnel will be available is flawed, when the oil spill plan requires over 100 trained personnel to mount an effective response.

Sufficient Personnel Must be Available in Valdez to Mount an Effective Response to a Worst-Case Oil Spill

<u>Recommendation</u>: Prior to making a FONSI determination, BLM must ensure there are sufficient, adequately trained, and qualified personnel available at the terminal year-round to provide adequate emergency response in the initial minutes following a catastrophic emergency such as an earthquake, fire, explosion, or oil spill. The SRWG requests BLM require the applicant to submit a plan which details sufficient and effective response, detailing that there will be adequately trained and qualified staff to:

- *Simultaneously move crude oil, reconfigure the facilities, and respond to emergency event, during the Strategic Reconfiguration construction period;*
- *Complete all inspection, maintenance, repairs, and other regulatory requirements without requesting deferrals or waivers during construction or thereafter;*
- *Complete all mandatory local, state and federal regulatory responsibilities;*
- *Protect the environment and personnel from risk and injury;*
- *Provide adequate resources to quickly remove heavily snowfalls to ensure year-round access to major facility systems for rapid emergency response access;*

[3] Environmental Assessment for VMT SR Project, Section 2.1.8, December 1, 2004.
[4] Table 1-19, Scenario 5, CP-35-2.

- *Provide adequate security;*
- *Operate all existing and new equipment at the terminal;*
- *Meet the manning and training obligations of the VMT oil spill plan and ensure there will be sufficient trained personnel to meet the oil spill planning requirements and mount an effective oil spill response;*
- *Provide at least 18 NFPA 600 level trained personnel, and sufficient NIIMS Level 300 qualified personnel to man an ICS structure to respond to a major industrial fire incident;*
- *Ensure system reliability, especially in the case where the power supply is out-sourced; and*
- *Ensure quality assurance programs are not compromised.*

Appendix D – Internal Floating Roofs

Description of the Proposal

APSC is proposing to install Internal Floating Roofs (IFRs) on at least 12 crude oil storage tanks and remove up to 6 crude oil storage tanks from service.[1] IFRs are being proposed to eliminate the need for vapor control.[2] APSC also reports: *"…IFRs will eliminate the need to incinerate tank vapors, an estimated 500-700 equivalent barrels of oil would be saved each day for loading on tankers."*[3] APSC states that: "*floating-roof tanks are the industry standard for storage of volatile organic liquids with vapor pressure less than 11.1 psia."*[4]

Was an Independent Technical Analysis Completed by BLM?

In April 2004, JPO completed an independent technical analysis evaluating the use of IFRs in the crude oil storage tanks.[5] JPO's analysis raised several key technical issues and concerns.

Air Quality Impacts

JPO concluded there will be an increase in emissions for an IFR (an estimated 95% emission control) versus the current level of at least 99% emission control. JPO states: "*there is the potential for an increase in fugitive emissions from the tanks when the IFR tanks are installed…Because of the potential adverse impacts to the environment, Alyeska should compare fugitive emissions from the present vapor control system and the IFR system. This should include both quantitative and qualitative analysis of emissions."*

IFRs will increase air emissions by at least 4-5% in each tank

While the JPO technical report correctly identified an adverse air quality impact, the *Environmental Assessment* erroneously concludes the emissions from a tank with an IFR would be less than the emissions from a tank with vapor control.[6] The emissions associated with each tank retrofitted with an IFR will increase by at least 4-5% per tank[7] as correctly identified in the JPO technical report.

The reduction in volatile organic carbon (VOC) emissions shown in the Environmental Assessment (Table 4-1) was computed by comparing the emissions associated with 12 tanks installed with IFRs versus 18 tanks with vapor recovery. This is an apples-to-oranges comparison, because the decision to take 6 storage tanks out of service is completely independent of the decision to install IFRs, and because the remaining 12 tanks could remain connected to a 99%+ vapor control system. The correct emission comparison would be the difference in emissions

[1] APSC SR Environmental Report, August 2004, Executive Summary page 1, paragraph 4.
[2] APSC SR Environmental Report, August 2004, p.2-8.
[3] APSC SR Environmental Report, August 2004, p.2-11.
[4] APSC SR Environmental Report, August 2004, p.2-11.
[5] Valdez Marine Terminal Strategic Reconfiguration, JPO Report No. VMT-04-E-001, "An Evaluation of Useage of Internal Floating Roof Tanks," April 2004.
[6] Environmental Assessment for VMT SR Project, Section 4.1.4, December 1, 2004.
[7] A nominal 95% control efficiency with an IFR, to a nominal 99% control efficiency with vapor control.

associated with 99%+ control on 12 tanks versus the proposed reduction in emission control to 95% with 12 tanks installed with IFRs.

The Environmental Assessment also identified a significant potential environmental impact associated with the release of hydrocarbon vapors as the result of the behavior of an IFR when subjected to moderate to strong earthquake shaking. Section 4.1.2 (Seismic Impacts) of the Environmental Assessment presents the problem, but it is later ignored as an important conclusion in Section 4.1.4 (Air Quality Impacts).

The Environmental Assessment is also silent on the increase in air emissions associated with maintenance, cleaning or tank venting. Currently tanks are vented to a control device (99%+ emission control at the incinerator) when cleaned or maintained. Once the IFRs are installed these emissions will directly vent to the atmosphere uncontrolled, further increasing emissions associated with IFRs.

The Environmental Assessment does not recognize there is a major environmental and human health difference between combusted and un-combusted emissions. The tank vapors are currently collected and used as fuel in the boilers or are incinerated to a 99.9% control efficiency.[8] Combustion of raw volatile organic carbon (VOC) vapors, containing significant quantities of hazardous air pollutants (HAPs) (such as benzene, an EPA listed human carcinogen) is a much more efficient and environmentally sound way of disposing of VOC and HAP vapors, especially when the vapors are used as a fuel source rather than just combusted as waste. The proposal to install IFRs will eliminate the combustion of HAP containing VOCs, and will instead emit HAPs directly to the atmosphere for environmental and human exposure. It is not clear how BLM comes to the unsubstantiated conclusion that installing IFRs in the storage tanks results in "minor air quality impacts."[9]

The Environmental Assessment is also silent on the potential increase in emissions associated with an IFR retrofit that must accommodate 61 internal tank column seals and a rim seal in the design. While the Environmental Assessment relies on a nominal 95% emission control standard typically achieved by IFR installations with very few internal columns, it does not consider the increased emissions associated with over 61 potential seal locations. Even APSC's consultant report explains a strong correlation between tightly sealed roofs and increased structural integrity risk. Nyman and Honegger[10] explain while the seals at the column penetrations and along the circumferential tank wall must be reasonably tight to minimize the release of hydrocarbon vapors, the annular column seals must accommodate the planar rotation of the floating roof as the sloshing occurs during an earthquake, otherwise the roof may become hung on some of the interior columns and be distorted out of plane.

Emissions Estimate Ignores Increased Emissions Potential from 61 Column Seals or Maintenance Emissions

JPO's report also recommended application of EPA's New Source Performance Standards for Internal Floating Roofs at Title 40, Part 60, Subpart K, Ka, and Kb regulations; however, the

[8] As reported by APSC to EPA, in the 1998 Incinerator A emission test.
[9] Environmental Assessment for VMT SR Project, Section i, December 1, 2004.
[10] APSC's Consultants Nyman and Honegger also draw this conclusion in their November 17, 2003 report prepared for APSC, "Seismic Design Considerations for Crude Oil Storage Tanks at Valdez Marine Terminal."

Environmental Assessment does not include any requirement to follow these requirements as an obvious and important mitigation measure identified by JPO experts.

While the Environmental Assessment cites BLM's formal requests for review and comment by several federal agencies, BLM surprisingly does not request the Environmental Protection Agency to review or comment on this major change in air emission control design.

Structural Integrity

JPO's report recommended application of the American Petroleum Institute (API) design standards for IFRs (API 650, Appendix H); however, the Environmental Assessment does not include any requirement to follow these requirements as an important mitigation measure identified by JPO experts.

Draft EA Does Not Include JPO's Recommendation to Require API 650 Construction Standards

While JPO engineers rely on the design and installation requirements of API 650, Appendix H in their decision making, this standard does not address the seismic design of a floating roof to withstand the impacts of a major "sloshing event."[11] Furthermore, the Environmental Assessment does not provide any evidence the seismic design issues were independently evaluated by seismic experts on staff or on contract to the agency. The Environmental Assessment seems to rely heavily on the report produced by APSC's consultants (Nyman and Honegger 2003) and a report produced by Tank Consultants, Inc (TCI 2003), without independent verification. It is not clear who commissioned the TCI 2003 report, nor was a copy of this report provided to the SRWG for review. The Environmental Assessment concludes:

> *The most significant potential environmental impact appears to be the release of hydrocarbon vapors as a result of the behavior of an IFR when subjected to moderate to strong earthquake shaking. Without adequate engineering controls, IFRs may become "hung" or "racked" on the interior supports due to extreme sloshing of crude oil and/or the edges of the roof many become jammed against the tank due to tank wall deformation. The potential also exists that metal-to-metal contact might occur during sloshing and cause a spark that ignites vapors. It is believed that some storage tanks fires involving floating roofs have been caused by this type of behavior in past earthquakes at other facilities (TCI 2003).*

Draft EA Does Not Include Design Requirement for Worst-Case Earthquake

While, the Environmental Assessment identifies serious concerns regarding the risk of a fire, explosion or major spill associated with an IFR design, it comes to the unsupported conclusion that all these risks will be addressed in the design and construction of the IFRs. The Environmental Assessment provides no engineering basis for this conclusion and no assurance the significant and major environmental consequences associated with an IFR failure will satisfactorily be mitigated. Rather, the Environmental Assessment only requires the IFR design to "…consider sloshing waves and potential deformed tank walls associated with earthquakes that

[11] APSC's Consultants Nyman and Honegger also draw this conclusion in their November 17, 2003 report prepared for APSC, "Seismic Design Considerations for Crude Oil Storage Tanks at Valdez Marine Terminal."

have a reasonable probability of occurring during the life of the Valdez Marine Terminal."[12] There is no definition of "*reasonable probability"* and no assurance the design would be able to withstand a 9.2 magnitude earthquake on the Richter Scale, similar to the one experienced in Valdez only forty years ago (1964 Earthquake). Clearly, the term "*reasonable probability"* reduces the effectiveness of this proposed mitigation measure and leaves the design standard open to great interpretation. In addition, the Environmental Assessment also proposes a passive/reactive mitigation measure which merely requires monitoring the design of the IFRs. Once designed, however, major design flaws may adversely affect the environment prior to being identified or corrected. A passive/reactive mitigation measure does not substantially reduce risk and provides little measurable benefit.

While JPO's IFR technical report relies heavily on their site visit to the Newfoundland tanks to provide a basis for concluding IFRs can be satisfactorily retrofitted into the VMT storage tanks; the Newfoundland tanks have only 20 internal columns within the design, versus the 61 columns in the VMT design. Tank seals around 61 structural columns will be a significant engineering challenge. The risk of this design challenge has not been satisfactorily mitigated or addressed in the Environmental Assessment.

Leak Detection & Fire Detection

The Environmental Assessment is silent on how the IFR design will impact the leak detection capabilities of the crude oil storage tanks. There is no independent technical review performed of the storage tank leak detection system, or any discussion of the increased environmental risk or consequences associated with tank leak detection system modifications. While the SRWG raised concern on the safety and oil spill risks associated with retrofitting crude oil storage tanks which are almost three decades old with IFR, the Environmental Assessment is silent on the increased safety or oil spill risks associated with the IFR retrofit in these aging tanks. As described in Appendix A, the SWRG remains concerned there is no fire detection systems planned for the IFR design.

Leak Detection and Fire Detection Systems Are Critical

Major Issues of Concern

APSC's October 22, 2004 presentation on IFRs alleviated many concerns and increased the transparency of the decision making process. APSC's efforts in this respect are appreciated; however, there remain a few issues of concern with installing IFRs in the 250 ft diameter tanks, which contain 61 internal columns in an earthquake prone area. To our knowledge, the retrofit will be one of the largest and most complicated ever completed in the United States.

Are air quality impacts of IFRs properly evaluated?

The SRWG continues to be concerned the Environmental Assessment does not evaluate the air quality impacts associated with retrofitting crude oil storage tanks. The SRWG's air quality consultant finds increased emissions will result from the installation of IFR in 12 storage tanks versus the

IFRs will increase the amount un-combusted hazardous air pollutant emissions

[12] Environmental Assessment for VMT SR Project, Section 4.4.2, December 1, 2004.

retention of the existing vapor control system for the same set of 12 tanks. IFRs will increase the amount of un-combusted VOC emissions, containing hazardous air pollutants, to the atmosphere because:

- IFRs nominally control emissions (at best) to a 95% standard versus a 99%+control standard achieved by a vapor combustion control system;
- While emission control levels of 95-98% have been achieved by double seal IFR tanks in smaller tank applications, there is no technical information provided in the Environmental Assessment to validate the emission control performance of a 510,000 bbl fixed roof storage tank retrofitted with an IFR containing 61 column seals;
- IFRs are not designed to combust emissions prior to discharge, resulting in emission of un-combusted HAP containing VOCs;
- There will be no vapor control system in place for tank emission venting during inspection, maintenance, or tank cleaning events;
- There is potential for a major uncontrolled vapor release during a seismic event or other major failure of the IFR system;
- There will be 61 column seal failure points and a major rim seal failure point; and
- Improved emission control performance (e.g. tight seals) can result in increased risk of a "hung" IFR and a catastrophic failure during a seismic event.

It is not clear how the storage tank emission control system can be remedied if the IFR fails to control emissions as APSC predicts? What is the back-up plan? Can the vapor control system be returned to service or will it be decommissioned?

While the Environmental Assessment states 500-700 equivalent barrels of oil are burned in the incinerators each day using the current vapor control system, there is no technical basis or documentation to support this claim. The current vapor recovery and boiler system is designed to prevent pollution by using waste gas vapors in the power boilers as a primary fuel source. All three boilers are equipped to co-fire vapor recovery system waste gas and oil. Thus, waste gas offsets any need for supplemental fuel oil. Incinerators are only used to destroy excess waste gas which can not be used in the power boilers.[13] It is much more plausible for 500-700 barrels of oil equivalent to be consumed in the boiler system for power generation, with a much smaller fraction being sent to the incinerators as waste. This is an important distinction because APSC's application and the Environmental Assessment lead the public to believe the installation of IFRs will result in the elimination of 500-700 bbls of oil being burned each day, yet both fail to mention that once this fuel source is eliminated upon IFR installation, another equivalent volume fuel source (e.g. diesel) must be used to provide the equivalent amount of power generated by that waste. Power must be generated in some fashion. If the saturated tank vapors are not used then another fuel source must be used. As discussed in Appendix F there are significant air quality impacts associated with large increases in diesel fuel use for power generation such as sulfur dioxide pollution, carbon monoxide pollution, not to mention the increase in VOC emissions and HAPs pollution resulting from un-combusted and un-captured vapors

True Net Energy Consumption Comparison is Needed

Why Was EPA Excluded from Technical Review of this Major Change to the Nation's Largest Terminal?

[13] APSC, Prevention of Significant Deterioration Application for the Valdez Marine Terminal Vapor Control Project, Submitted to ADEC on October 24, 1995.

associated with IFR operations.

The SWRG is very concerned BLM made no apparent effort to enlist EPA's technical review of this major emission control change at the nation's largest terminal before concluding the air emission impacts are insignificant. The lack of consultation with EPA is disturbing in light of the use of the existing vapor recovery system as an essential facility design component for compliance with EPA's Marine Vessel Loading Rule 40 CFR, Part 63, Subpart Y. The SWRG is also concerned the Environmental Assessment or FONSI decision does not include any requirement to at least follow EPA's minimum emission standards for Internal Floating Roofs at Title 40, Part 60, Sub-part K.

There is also no apparent plan for vapor control on the 80's tanks as required by the final EPA hazardous air pollution control regulations at 40 CFR, Part 63, Subpart EEEE. Installation of IFR's in these tanks will be difficult due to skimming systems installed, and shut-down of the power vapor plant eliminated the capture and control alternative. It is not clear what alternative is being considered to comply with this mandatory EPA requirement.

Recommendation: To ensure air quality impacts associated with IFR's are properly evaluated and understood, the SRWG requests BLM request a formal review and consultation with EPA Region 10 regarding the emission benefits and impacts of IFR installation at the VMT, and revise the Environmental Assessment and decision accordingly based on EPA's technical review and advice. The SRWG recommends that if the EPA finds IFRs to be an appropriate emission control option for the VMT, BLM should condition its approval with the following requirements:

- *compliance with EPA's New Source Performance Standards for IFRs at Title 40, Part 60, Subpart K regulation;*
- *installation of the best available emission suppression control technology available for IFR seals and vents, including bi-annual inspection of seal and vent performance;*
- *and retention or installation of some emission control capacity to combust VOC vapors containing hazardous air pollutants during inspection, maintenance or tank cleaning events.*

The SRWG also requests the Environmental Assessment provide a plan for vapor control on the 80's tanks as required by the final EPA hazardous air pollution control regulations at 40 CFR, Part 63, Subpart EEEE.

Are Environmental Consequences of IFR design properly mitigated?

The SRWG remains concerned the *draft FONSI* is inconsistent with the Environmental Assessment report, JPO's technical reports, and APSC's reports which all identify serious concerns regarding the risk of a fire, explosion, or major spill associated with an IFR design. The SRWG does not understand how the draft FONSI can ignore all this technical advice and lead to the unsupported conclusion that all these risks will be addressed in the design and construction of the IFRs. The Environmental Assessment provides no engineering basis for this conclusion and no assurance the significant and major environmental consequences associated with an IFR failure will satisfactorily be mitigated. Stating the risk will be mitigated in the future by a de-facto mitigation measure, and actually being able to design an IFR in a 250 ft diameter tank with 61 columns in a major earthquake area is different.

Draft EA Does Not Provide a Technical Basis for Mitigating IFR Risk

The SRWG remains concerned fire detection and leak detection systems have not been properly evaluated as risk mitigation alternatives.

Recommendation: To mitigate the risk of a fire, explosion, or major oil spill associated with IFR installation, the SRWG recommends the BLM condition their approval to require the design and installation to, at a minimum, comply with API 650 construction standards for IFRs, including the best available technology for leak detection, fire detection, fire control, and emission suppression and be designed to operate in sub-arctic conditions. The approval should also require the design to withstand an earthquake, at least as large as the 1964 Earthquake which struck Valdez.

Should one IFR be installed and tested before all 12 are installed?

The SRWG remains concerned there is no specific plan to monitor IFR performance once installed. The draft FONSI decision proposes a mitigation measure which requires APSC to monitor the performance and integrity of the IFRs by documenting the performance in a report to JPO. The proposed mitigation measure does not include any enforceable compliance timeframes, or requirements for maintenance, repair, and removal if the IFRs fail to perform as advertised. The proposed requirement could simply involve a written report describing problems with the IFRs, with little or no attention paid to true risk mitigation.

The VMT crude oil storage tanks have been troubled in the past by very serious sludge and wax build up; however, the Environmental Assessment is silent on how this risk will be mitigated.

APSC's Environmental Report presents a very aggressive schedule for installing IFRs in the crude oil storage tanks *(*IFR Engineering 3Q-4Q 2004; Install IFRs in crude oil tanks 2Q 2005 though 2Q 2008).[14] The schedule doesn't seem to allow enough time for proper engineering and agency review. There should also be time allotted for modification to the IFR design after it is installed in the first tank to ensure that lessons learned are incorporated in the design and installation for the remaining 11 tanks.

Installing and Testing One IFR Would be Prudent Before Retrofitting all 12 Tanks

A more technically sound, and scientific approach would be to approve installation of an IFR in one tank to examine its technical feasibility prior to approving conversion of all tanks. Tests should be required to examine the structural integrity, operational feasibility and environmental performance prior to approving a retrofit of the remaining 11 tanks. The remaining tanks would be approved for IFR installation pending the successful results of the initial "test" installations.

Recommendation: The SRWG recommends BLM improve their draft Mitigation Measure No. 3. The mitigation measure should be enforceable, measurable, specific and one which actually reduces environmental consequence rather than just generate a written report. The mitigation measure could read:

To mitigate the technical risk and potential environmental consequences associated with the installation of IFRs at the nation's largest terminal, in an earthquake prone area and federally designated environmentally sensitive area, BLM's approval is initially limited to one IFR

[14] APSC SR Environmental Report, August 2004, Figure 2-12.

installation. Once installed, the IFR will be examined for structural integrity, operational feasibility, and environmental performance. The design should be evaluated, refined, and approved by JPO's engineers prior to retrofitting the remaining 11 tanks. Once installed a full API 653 internal inspection must be performed at least once every 10 years, unless tank corrosion requires a more frequent schedule.

Appendix E – Local Socioeconomic Impacts

Description of the Proposal

APSC is proposing to significantly reduce the number of employees as a result of the proposed SR project; however, APSC provides no specific numbers of job reductions, quantitative data or economic assessment of the resulting local impacts.

In September of 2004, Alyeska Pipeline Service Company (APSC) produced a report entitled "Local Economic Effects Assessment" as a supporting document to the August 2004 Environmental Report on the effects of Strategic Reconfiguration at the VMT. The 43 page report provides background on the Valdez area but little detail about the proposed Strategic Reconfiguration project and the socioeconomic impacts to the community of Valdez. The report only begins to address the Strategic Reconfiguration project on page 38, and provides a very brief 4-page summary of the potential socioeconomic impacts to the community of Valdez. The 4-page general description of the Strategic Reconfiguration project and its potential socioeconomic impacts provides no real quantitative data or economic assessment. The report is not a complete assessment of the potential local economic effects resulting from the proposed Strategic Reconfiguration Project, and sheds little light on the topic at all.

A Credible Economic Impact Assessment was not Performed Because No Quantitative Data Was Provided by the Applicant

Absent any quantitative data or economic assessment of the local economic effects of the proposed Strategic Reconfiguration project, it is difficult for the SRWG to draw conclusions about the significance of the potential project impacts. It is also very difficult for the SRWG to understand how BLM could draw any conclusions based on the lack of specific numbers of job reductions, real quantitative data, or true economic assessment of the resulting local impacts.

The SRWG concludes the Local Economic Effects Assessment insufficient to support the Environmental Assessment because the socioeconomic report provides no information on the number of jobs which will be eliminated, the net change in local government revenues, or the impact on schools, local utilities, transportation, other public services and overall quality of life. The report also contains incorrect and outdated information which needs to be updated to ensure an accurate assessment is made.

The SRWG would like to work closely with APSC and the agencies to improve the draft assessment, better understand the impacts, correct the errors and omissions found in the draft report, and discuss potential mitigation measures to offset the potential impacts of SR.

Was an Independent Technical Analysis Completed by BLM?

The Environmental Assessment concludes there will be significant long term local impacts in the City of Valdez associated with the SR Project: "Locally, simplification of the VMT will result in a phased reduction and redistribution in the VMT workforce resulting in a loss of jobs and related economic and social effects which could include reductions in personal income, increased

BLM Concludes Significant Long-term Local Socioeconomic Impacts Will Occur

unemployment, and decreased demand for goods and services."[1] While the Environmental Assessment makes broad and sweeping conclusions about the local long-term socioeconomic impacts, these conclusions are not based on data from the applicant, rather the lead agency seems to rely on estimated job reductions as reported in the Anchorage Daily News.[2]

While Environmental Assessment concludes the long-term local socioeconomic impacts will be significant, the draft decision to issue a "Finding of No Significant Impact" seems to directly conflict with this conclusion.

Section 4.5 of the Environmental Assessment states: "*The proposed action is expected to result in potential adverse and unavoidable economic impacts to the City of Valdez and surrounding communities."* No mitigation measures are proposed in the Draft Record of Decision to mitigate the unavoidable economic impacts to the City of Valdez; yet, the Environmental Assessment erroneously concludes mitigation measures for all unavoidable impacts were suggested[3].

Major Issues of Concern

The SRWG remains concerned the applicant has not supplied quantitative data on the number of job losses expected and has not provided a thorough examination of the local socioeconomic impact of the proposed SR Project. The SWRG's October 2004 comments[4] provide an exhaustive list of errors, omissions, and concerns with the September 2004 Alyeska Pipeline Service Company (APSC) report titled "Local Economic Effects Assessment," which will not be repeated, but are incorporated by reference herein as continued concerns.

The SRWG maintains the SR Project is not ripe for a FONSI determination , since even BLM concludes a significant local socioeconomic impact is evident, and no mitigation measures have been proposed by the applicant to offset the impact.

Successful cities require the full cooperation of local businesses to ensure the best services can be provided to the residents of the community ("their employees"). This is especially true when there is a dominant employer in the city. Not only is APSC a major employer, but the Valdez Marine Terminal requires numerous support contractors and generates a need for other local businesses and government functions which would not exist if the terminal did not exist. Thus, job reductions at the VMT also translate into job reductions in other private or government sectors. Communities need to plan years in advance for major swings in student population, utility needs, police, fire service, etc. Full cooperation between local businesses and the city is needed to help predict major changes in service needs and develop plans to mitigate the impact of major swings in population and community service needs.

Applicants Must Supply Quantitative Data, Complete a Thorough Economic Assessment, and Propose Bonafide Mitigation Measures

[1] Environmental Assessment for VMT SR Project, Section ii, December 1, 2004
[2] Environmental Assessment for VMT SR Project, Section 4.1.13.1, December 1, 2004
[3] Environmental Assessment for VMT SR Project, Executive Summary, December 1, 2004
[4] Strategic Reconfiguration Working Group (SRWG) Preliminary Draft Comments on the Alyeska Pipeline Service Company (APSC) Strategic Reconfiguration of the Valdez Marine Terminal (VMT) Environmental Report dated August 2004, submitted by the SRWG to the Joint Pipeline Office, BLM Authorized Officer Jerry Brossia, October 5, 2004.

The SRWG remains concerned that APSC has not worked closely with the City of Valdez to provide the quantitative data necessary to allow the city to provide the best services to the community, and is disappointed an Environmental Assessment and draft FONSI has been issued in the absence of a thorough economic assessment of the project's impacts. The Environmental Assessment suggests that SR provides positive impact to the nation and State of Alaska as a whole, and that these positive impacts greatly outweigh the local impacts to Valdez's socioeconomics. Perhaps there should be a way to transfer economic benefits provided to the nation as a whole back to Valdez to mitigate the negative local impacts (i.e. federal and state grants or funding).

Recommendation: To ensure the City of Valdez is able to properly prepare for large changes in population, demands for services, and economic impacts associated with major changes in the tax base, the SRWG requests BLM defer issuing a FONSI until the applicant revises the "Local Economic Effects Assessment Report" to address the errors, omissions, and concerns raised in the SRWG's October 2004 comments submitted to BLM. The applicant must recommend to BLM bonafide mitigation measures to offset the long-term socioeconomic impacts of the SR Project on the City of Valdez.

Appendix F – Power Generation Options

Description of the Proposal

APSC is proposing to decommission the power vapor plant. The power vapor plant has three very important functions:

- Generates electrical power for the VMT;
- Provides a vapor control device for crude oil tank and tanker vapors; and
- Provides an inert gas system for the crude oil tanks and tanker loading operations.

Decommissioning the power vapor plant will require an alternate power source to be located or constructed and an alternate means of controlling both the tanker and storage tank emissions.

Alyeska currently generates electricity on-site using: (a) vapors scavenged from the headspace of the crude oil tanks; (b) vapors scavenged from tankers during the loading process; and (c) diesel fuel to generate steam in power boilers to drive turbines. As contemplated in the Environmental Report: (a) vapors will no longer be scavenged from the crude oil storage tanks; (b) vapors from tankers will be incinerated without any power generation; and (c) electrical power (load ranging from 4 megawatts to 7 megawatts) will likely be purchased from Copper Valley Electric Association (CVEA).

APSC has proposed controlling tank emissions by installing internal floating roofs (IFRs - see comments in Appendix D). APSC has proposed controlling tanker emissions by installing vapor combustors in the Berth 4 and Berth 5 area (see comments in Appendix G). Three options have been identified to supply power required once the power/vapor system is shut-down. These options include:[1]

- Connect to a local utility such as the rural electrical cooperative Copper Valley Electric Association for primary power and provide backup power on-site with diesel-engine-driven generator sets;
- Generate primary power at the VMT using multiple diesel generators and maintain backup power on-site with diesel-engine-driven generator sets; and/or
- Install a power recovery turbine into the crude oil pipeline.

The installation of new prime diesel generators at the VMT will most likely trigger a Prevention of Significant Deterioration (PSD) review and require emission controls. APSC has started to collect meteorological data for the PSD permit.

APSC reports the power demand will be reduced from 12 MW to 5MW for the entire terminal once the power vapor system has been shut-down. They estimate 7 MW of power is required to operate the vapor balancing system.

[1] APSC SR Environmental Report, August 2004, p.2-12:

Existing Power Generation System

The existing VMT power generation system employs three power boilers which are designed to co-fire vapor recovery system waste gas and oil. The power boilers are coupled to three condensing-steam turbines which drive electrical generators capable of generating 12.5 megawatts (MW) each. While the terminal currently requires less than 12 MW of power, two units are run in parallel to maintain a 100 percent spinning reserve, so power is maintained even if one unit fails.[2] Beyond the redundant boiler system, the terminal is also equipped with 2.6 MW of emergency power provided by diesel generators to control essential equipment in a power failure. The current power generation system is reported to be extremely reliable.

Existing System Reliability is Extremely High 100% Spinning Reserve and a Diesel Power Backup

Was an Independent Technical Analysis Completed by BLM?

The SWRG's concerns regarding the power generation alternatives were presented to BLM in its preliminary October 5, 2004 comments; however, the Environmental Assessment does not address a majority of the concerns raised by the SRWG.

The Environmental Assessment draws confusing conclusions, based on insufficient technical data. While the Environmental Assessment and draft FONSI come to the unsupported conclusion all proposed power options are environmentally sound, these same documents verify the conclusion is based on "insufficient" data. The Environmental Assessment concludes:

BLM Concludes Insufficient Information Was Provided To Evaluate the Power Generation Impacts

> *"There is insufficient information to completely evaluate potential air quality impacts associated with the power generation sub-alternative option 1 (commercial power supplied by CVEA); however, increased CO emissions will likely result from either power supply alternative."*

In addition to the expected increase in carbon monoxide (CO) emissions from the CVEA option, the Environmental Assessment also reports increased CO emissions and sulfur dioxide (SO_2) emissions from the on-site diesel power options.

The Environmental Assessment presents APSC's comparison of VMT air emission estimates before and after reconfiguration, with no apparent independent technical review or analysis to confirm the validity or the assumptions built into the estimates. The estimates and narrative:

- Lack any information to indicate the type or location of power generating equipment which would be used by CVEA to provide 5 MW of power to the terminal;
- Do not provide any explanation as to the whether the emission estimates include increased tank emissions due to IFRs or the combustion emissions associated with tank vapor emissions;
- Do not provide any information on the fuel sulfur content;

[2] Environmental Assessment for VMT SR Project, Section 2.1.3, December 1, 2004.

- Appear to "out-source" power generation to a commercial supplier with no regard to the emission impact of the increase in power generated at the commercial source or the potential use of older higher pollution sources to generate the required power; and
- Do not appear to include any emissions associated with spinning spare or backup power supplies.

While the Environmental Assessment cites BLM's formal requests for review and comment by several federal agencies, BLM surprisingly does not request the Environmental Protection Agency (EPA) to review or comment on this major change in air emission control design.

The Environmental Assessment never reaches a sound conclusion on which power generation option is environmentally preferable.

Major Issues of Concern

Repeated requests made by the SRWG for additional information on the power generation alternatives, air emission impacts associated with the various proposed alternatives, and concerns about system reliability and backup power capability were not responded to by APSC in a timely manner, such that they could be considered in these comments.[3] The SWRG remains very concerned the power generation alternatives are not well understood or evaluated at this point. The SWRG finds much more technical analysis is needed by the agency before a *FONSI* can be reached for the proposed power generation alternatives.

Is the "commercial" power option environmentally preferable?

The Environmental Assessment does not provide technical data to confirm pollution prevention alternatives have been considered for providing the most environmentally responsible power supply option.

While the Environmental Assessment refers to the fact the "commercial" power source under consideration is Copper Valley Electric Association, the location and source of power by CVEA is not provided. The Environmental Assessment (Section 2.2.1.3) merely refers to the fact that: "*Current air quality operating permits issued by the Alaska Department of Environmental Conservation to CVEA indicate the utility has sufficient installed generator capacity to produce the additional power required by CVEA," citing the Valdez Power Plant, Glennallen Power Plant, and Cogeneration Plant as power options.*[4]

Where Will the Power Come From? Old, Higher Pollution Diesel Units?

CVEA has four main power generation sources: (1) CVEA Glenallen Diesel Plant, (2) CVEA Cogeneration Project, (3) CVEA Valdez Diesel Plant, and (4) a Hydroelectric Facility. Although the power demands of a reconfigured VMT will substantially increase the electrical load served by CVEA, there is no indication in the Environmental Assessment that CVEA will be installing new, lower pollution power generating equipment to supply power to the VMT.

[3] APSC provided a brief e-mail summary table with some additional air quality data to PWSRCAC at 4pm on December 29, 2004, less than a day before comments were due to BLM. It was not possible for the SRWG to meet and review this data, or consider it in this set of comments.
[4] Environmental Assessment for VMT SR Project, Section 2.2.1.3, December 1, 2004.

One source of power is CVEA's perhaps under utilized power generation capacity at the CVEA Glennallen Diesel Plant. Actual emissions for the Glennallen Diesel Power Generation Plant show the available capacity may existing in several very old, "grandfathered" air emission sources which are not subject to best available emission control technology requirements.[5] The diesel engines at this plant were installed between 1959 and 1999. The permit shows 7 of the 8 diesel generators are grandfathered sources, do not require best available emission control technology, and are capable of producing 7.6 MW of power. In 1999 a 1.3 MW generator was installed. This facility is not required to use ultra-low sulfur diesel and is permitted to operate with diesel fuel sulfur content upwards of 0.5%. If power is supplied by the Glennallen Diesel Power Generation Plant, instead of the existing power vapor recovery system there will clearly be an increase in overall air emission impact to the environment by using less efficient, older, higher fuel sulfur content units to generate the power. The impacts to the community of Glennallen based on the potential use of this power supply are not considered in the analysis. Based on a very cursory review, this alternative does not appear to be environmentally preferable.

Another source of power is CVEA's perhaps under utilized power generation capacity at the CVEA Valdez Diesel Plant. Actual emissions for the Valdez Diesel Power Generation Plant show the available existing capacity may be several very old, "grandfathered" air emission sources which are not subject to best available emission control technology requirements.[6] The diesel engines at this plant were installed between 1954 and 1976. The permit shows all diesel generators are grandfathered sources, do not require best available emission control technology, and are capable of producing 10.1 MW of power. This facility is not required to use ultra-low sulfur diesel and is permitted to operate with diesel fuel sulfur content upwards of 0.5%. If power is supplied by the Valdez Diesel Power Generation Plant, instead of the existing power vapor recovery system, there will clearly be an increase in overall air emission impact to the environment by using less efficient, older, higher fuel sulfur content units to generate the power. The impacts to the community of Valdez based on the potential use of this power supply are not considered in the analysis. Clearly, increasing a pollution source closer to the community of Valdez to serve the needs of the terminal can not be an environmentally preferable alternative. Based on a very cursory review, this alternative does not appear to be environmentally preferable.

Increasing Pollution Near Population Bases Is Not Environmentally Preferable

Petro Star, Inc. constructed an oil refinery on Dayville Road in Valdez in 1992. CVEA and Petro Star combined forces to design and construct a 5 MW cogeneration facility which provides power to CVEA members and provides waste heat to Petro Star Inc. to enhance the refinery process.[7] This power plant became operational in year 2000. While this facility contains a newer, less polluting power generation source, this facility does not appear to have surplus power available for use at the terminal, based on publicly available data.

Surplus Power Seems to Be Available By Returning Older, Higher Pollution Sources to Service

The Solomon Gulch Hydroelectric Facility is currently owned by the Four Dam Pool Power Agency and is operated by CVEA. This facility is capable of generating 13 MW. Power is generated by two water turbines. CVEA's website reports the Solomon Gulch Hydroelectric Facility provides the

[5] CVEA Glennallen Diesel Plant, Title V Air Emission Permit, valid July 26, 2000- July 25, 2005.
[6] CVEA Valdez Diesel Plant, Title V Air Emission Permit, valid September 8, 2000-September 7, 2005.
[7] CVEA Cogeneration Project, Title V Air Emission Permit, valid July 25, 2002-August 27, 2007.

main source of power to its customers during the summer months, with the Glennallen diesel plant providing the bulk of the power in the winter months.[8] While this facility contains a newer, less polluting power generation source, the capacity of this facility appears to be already 100% used in serving CVEA's current electrical load and, thus, unavailable to serve any new loads at the VMT on a year-round basis,

Therefore, the SRWG remains concerned the Environmental Assessment lacks a complete technical review and environmental impact assessment of the "commercial" power option. Based on our cursory review, using publicly available data, the only reasonable conclusion to be drawn is the commercial power generation option is not likely an environmentally preferable alternative. It is not clear sufficient surplus generation is available to reliably supply the reduced, but still substantial load (5MW) at the VMT. Additionally, CVEA's existing surplus generation capacity appears to be available by increasing the usage rates of older, higher pollution diesel generating units which are not equipped with the best available emission control technology ("grandfathered" units).

While the Environmental Assessment includes the alternative of CVEA supplying power to VMT, it does not evaluate the alternative of VMT supplying power to CVEA. The Environmental Assessment also does not evaluate the alternative of supplying power to the tankers while at berth. Supplying electrical power to docked tanks will reduce sulfur emissions and eliminate opacity events, due to the current generation of power by diesel fired engines on the tanker while at the dock. The existing VMT power plant has excess power generation capacity, much of which is generated by combusting waste gas which is an environmentally preferable fuel source versus use of a non-renewable fuel source such as diesel, and supply other power needs may have a positive impact on the Valdez air shed.

Recommendation: To ensure environmental impacts associated with the commercial power generation alternative are properly evaluated and understood, the SRWG requests BLM to prepare a complete environmental assessment of the commercial power generation option, and revise the Environmental Assessment to include this assessment before concluding all power options deserve a FONSI. The SRWG requests the alternative of VMT supplying power to the local utility and the tankers while at berth be considered.

Is the "commercial" power option reliable?

The current VMT power generation system provides for a 100 percent spinning reserve, so power is maintained even if one power generation unit fails.[9] Beyond the redundant boiler system, the terminal is also equipped with 2.6 MW of emergency power provided by diesel generators to control essential equipment in a power failure. This level of system reliability is logical for the nation's largest oil terminal. The Environmental Assessment does not address the reliability of the proposed commercial power generation option.

Will Commercial Power Provide Equivalent System Reliability?

While the Environmental Assessment refers to the fact that the "commercial" power source under consideration is Copper Valley Electric Association, the location and source of power provided

[8] http://www.cvea.org
[9] Environmental Assessment for VMT SR Project, Section 2.1.3, December 1, 2004.

by CVEA is not provided. CVEA is a rural electric cooperative whose equipment is sized in capacity to reliably serve its existing customers and to accommodate reasonably sized but not very large new loads such as the one the VMT requires. While CVEA operates a hydroelectric plant, all of its generation capacity is currently committed to existing CVEA members. The power from the cogeneration plant located on Dayville Road is also committed to the existing customer base and is economically efficient only when heat sales to Petro Star are considered. Thus, cogeneration power is not reasonably available for sale to the VMT in the quantities likely to be required at the terminal. Absent additional information regarding how electricity for VMT loads will be generated, the SRWG is left to conclude the "commercial" power generation option appears to require a vastly increased usage of old, diesel fired power generating units to provide year-round the additional power needed by the nation's largest oil terminal. The Environmental Assessment provides no analysis on the reliability or environmental impact of this proposed option. It is not clear a rural electrical cooperative would be able to provide the necessary level of resources and expertise not to mention a reliable power load to the nation's largest oil terminal. Unreliable power could result in major catastrophic consequences for the terminal and the environment. Conversely, any load shedding option which prioritizes terminal power will adversely impact power reliability for other CVEA customers including businesses and residential homes in Valdez and Glennallen.

Recommendation: To ensure environmental impacts associated with the commercial power generation reliability are properly evaluated and understood, the SRWG requests BLM consult with EPA to prepare a complete environmental assessment of the commercial power generation option to examine the system reliability of providing 5 MW of power from a rural electrical cooperative to the nation's largest oil terminal, and revise the Environmental Assessment to include this assessment before concluding all power options deserve a FONSI. The SRWG also requests BLM to examine the alternative of supplying excess VMT power to CVEA.

Is conversion of an on-site waste gas powered generation system to an on-site diesel fired system the environmentally preferred option?

A number of concerns were raised by the SRWG regarding the option of decommissioning the current power boiler system and replacing it with diesel generating units. The SRWG is concerned the on-site diesel power generation option is predicted to increase carbon monoxide (CO ~200 tpy) and sulfur dioxide (SO_2 ~38 tpy) and will trigger PSD review (major air permit amendment for the VMT). Increases in sulfur dioxide (SO_2) are of concern because the terminal is already close to the National Ambient Air Quality Standard for SO_2 and the increment may be consumed. Use of commercially generated power is, in essence, an outsourcing of emissions.

The Environmental Assessment also assumes 173.3 tons per year less CO pollution will occur from the diesel power option than the applicant does, but provides no basis for this assumption.

Pollutant	*Environmental Assessment* Estimate (tons/year)	Applicant Estimate (tons/year)
Carbon Monoxide	**+32.6**	**+205.9**
Sulfur Dioxide	+38.1	+23.9

The SRWG questions whether decommissioning the current power boiler system and replacing it with diesel generating units is the most environmentally sound option when marine vapors are currently collected and burned as a fuel source in the power generation units. A diesel generation

plant will not use the recovered vapors for fuel. How does this alternative meet the pollution prevention requirements of the National Environmental Policy Act?

Emission control for sulfur requires limiting fuel sulfur content. Will this facility be designed and required to burn ultra low sulfur diesel? Is there a supply of ultra low sulfur diesel available?

Is Abandoning a Waste Gas Generation System and Replacing it With Diesel Powered Generation Environmentally Preferable?

If APSC installs a completely new power generation plant at the VMT, the EPA and ADEC will require APSC to install state-of-the-art combustion equipment and best available control technology. Would this be an environmentally preferable alternative to buying power from older, less efficient combustion sources, with older emission control systems at CVEA?

Recommendation: To ensure environmental impacts associated with the diesel power generation alternative are properly evaluated and understood, the SRWG requests BLM consult with EPA to prepare a complete environmental assessment of the diesel power generation option, and revise the Environmental Assessment to include this assessment before concluding all power options deserve a FONSI.

Why isn't the power generating turbine getting serious evaluation as an environmentally preferred option?

It is not clear why the option of using a Power Recovery Turbine has not been given serious consideration in the Environmental Assessment. While it is recognized the Power Recovery Turbine would not be able to supply the full 5 MW load on a consistent basis, it could serves as a significant environmentally friendly source of emission-free power to supplement or offset emissions generated by combustion sources. Thus, the Power Recovery Turbine appears to merit evaluation as a pollution prevention alternative. Installation of a Power Recovery Turbine would reduce air emissions at the terminal and would conserve fuel. It will be important to examine the Power Recovery Turbine (PRT) before firm decisions are made regarding other power alternatives, such as purchasing power from CVEA or installing a diesel plant. The Environmental Assessment seems to dismiss the Power Recovery Turbine option by stating: *"APSC has indicated they will likely further consider a PRT station **once a decision is made** on the option to be used for providing terminal power."*[10] The Environmental Assessment seems to say the pollution prevention alternatives for power generation will not be considered until the power generation alternative is determined. This clearly does not follow the recommended NEPA approach to selection of the most environmentally preferred option.

Pollution Prevention Alternatives Will Not be Considered Until the Power Generation Alternative is Determined?

Recommendation: To ensure environmental benefits associated with the power recovery turbine alternative are properly evaluated and understood, the SRWG requests BLM consult with EPA to prepare a complete environmental assessment of this pollution prevention option, and revise the Environmental Assessment to include this assessment.

[10] Environmental Assessment for VMT SR Project, Section 2.4, December 1, 2004.

Are air quality impacts of IFRs properly evaluated?

The Environmental Assessment draws inconsistent conclusions about the air quality impacts. To support a *FONSI,* BLM concludes air emissions will decrease at the VMT and improve air quality; however, there is no technical analysis to support this conclusion. While actual emissions may drop at the VMT under the proposed plan, the actual overall net air quality impact on the Valdez air shed needs to be examined because the proposed plan relies on the increased power generation capacity requirements at the local power plant. The actual overall net air quality impact of the proposed changes to the Valdez air shed is not explored. The analysis provided does not evaluate increases in hazardous air pollution emissions which may occur as result of IFRs.

Does the Assumption of Lower Emissions at the VMT Ignore Increased Emissions Elsewhere?

Is there a real emission benefit to the proposed power "outsourcing" or does it just move emissions from one location to another in Valdez? Is power generation at CVEA more efficient than the current power generation capability at APSC or is it less efficient? The APSC Environmental Report does not provide this air emission breakdown, nor does the Environmental Assessment.

The basis for all of BLM's and APSC's emission estimates seems to hinge on a drastically reduced power generation requirement, dropping the current requirement from 12 MW to 5MW. It is not clear if 5 MW will be the actual power load for the reconfigured VMT, nor is there any explanation of how power will be provided as emergency back-up in the event of a major power failure to ensure safe movement of oil in an emergency or if sufficient power will be available to go through an orderly shutdown process. It is not clear if BLM's and APSC's emission estimates include the back-up or spinning spare power requirements to maintain a reliable power supply.

The Environmental Assessment seems to heavily rely on APSC's air emission computations (Table 4-2 of the Environmental Assessment). The major flaw in these emission estimates appears to be the incorrect assumption that power can be outsourced to a commercial supplier with no regard to the emission impact of the increased demands for power generated by the commercial source. The emission estimates provided in Table 4-2 do not appear to include emissions from increased power generation by CVEA (or any new on-site diesels generators) to supply the VMT with its required power demand. The extent to which emissions have been underestimated is impossible to quantify due to the lack of detail provided in the emission estimates provided, and also by APSC's refusal to meet with the SRWG to discuss the technical aspects of the emission computations.

BLM concludes air emissions will decrease in the Executive Summary of the Environmental Assessment and the draft FONSI decision; however, the report contradicts this conclusion by citing emission estimates provided by APSC which actually show emission increases for both carbon monoxide and sulfur dioxide for the proposed alternatives. How can the Environmental Assessment conclude air emissions associated with diesel power generation may be so significant as to trigger an EPA Prevention of **Significant** Deterioration (PSD) permit application, and then turn-around and conclude the emission impact is **not significant**?

Why would an EPA Prevention of Significant Review Be Triggered for an "insignificant" air emission impact?

Furthermore, ASPC's emission estimates show reductions in VOC emissions which do not seem plausible in light of the expected increase in VOC emissions associated with a 95% or less emission control capability of an IFR vs. a combustion control device at 99.9% control (see Comments in Appendix D). The emission comparisons also fail to include any analysis of the amount of hazardous air pollution emitted for each proposed alternative.

Recommendation: To ensure air quality impacts associated with the various power generation alternatives are properly evaluated and understood, the SRWG requests BLM consult with EPA Region 10 regarding the emission benefits and impacts of the proposed power generation alternatives at the VMT, and revise the Environmental Assessment and decision accordingly based on EPA's technical review and advice. The SRWG also requests the Environmental Assessment be revised to provide a technically complete, independent analysis of air emissions associated with various power generation options, with a complete explanation of the assumptions used to draw air emission conclusions. The SRWG also requests BLM condition the approval of any new power generation source at the terminal with a requirement to install the Best Available Control Technology to control emissions.

Appendix G – Vapor Combustors

Description of the Proposal

APSC is proposing to decommission the power vapor plant. The power vapor plant has three primary functions:

- Generates electrical power for the VMT;
- Provides a vapor control device for crude oil tank and tanker vapors; and
- Provides an inert gas system for the crude oil tanks and tanker loading operations.

If the power vapor plant is decommissioned, vapor control must be provided by alternate means. APSC has proposed controlling tank emissions by installing internal floating roofs (IFRs -see comments in Appendix D). APSC is proposing to install vapor combustors in the Berth 4 and Berth 5 area to replace the existing power vapor system and incinerators.

APSC has proposed four vapor combustors and a vapor blowing unit. The vapor combustors will be approximately 12 ft in diameter and 70 ft tall. They are currently considering a John Zink system which is expected to exceed 99% combustion efficiency.

APSC points out the principal advantage in switching from the existing vapor incinerators to the new vapor combustors is that the new vapor combustion system will handle tanker vapors and operates only when needed, thereby reducing combustion emissions.[1] APSC states the current incinerators are inefficient because*: "in order to maintain the condition of the refractory in operating incinerators, they must be fired continuously, even when no vapors are available. This requires firing the units on auxiliary fuel (diesel) in order to have the system ready when needed."*[2]

Was an Independent Technical Analysis Completed by BLM?

Why Was EPA Excluded from Technical Review of this Major Change to the Nation's Largest Terminal?

The Environmental Assessment provides little information on the proposed vapor combustion system, other than to describe the most basic features of the proposed facility configuration. There is no analysis of the risks associated with the vapor combustors (e.g. fire or explosion hazards or other environmental impacts).

While the Environmental Assessment cites BLM's formal requests for review and comment by several federal agencies, BLM surprisingly does not request the Environmental Protection Agency (EPA) to review or comment on this major change in air emission control design.

Major Issues of Concern

In response to the SWRG concerns about the potential noise and visual impacts associated with the proposed vapor combustors, APSC provided additional information to the SRWG to explain

[1] APSC SR Environmental Report, August 2004, p. 2-8.
[2] APSC SR Environmental Report, August 2004, p. 2-3.

the type of John Zink combustor they are considering. APSC also provided a video tape of a similar combustor at a facility in Texas to demonstrate there is no flare (no visual impacts) and very little noise pollution. APSC's additional information alleviated many concerns and increased the transparency of the decision making process. APSC's efforts in this respect are appreciated.

The SRWG does have two remaining questions and concerns which have not been satisfactorily answered during the review process:

Are air quality impacts of IFRs properly evaluated?

The SWRG continues to be concerned the Environmental Assessment does not evaluate the air quality impacts associated with the new vapor combustor design and decommissioning existing waste gas incinerators. While the Environmental Assessment cites an anticipated 99% emission control efficiency and less overall emissions associated due to the new vapor combustion design because of its "on-demand" firing design, there are no quantitative emission estimates provided to show the difference between the existing emission control system and proposed system. The Environmental Assessment seems to assume all the tanker vapors collected are incinerated as waste, when in fact waste gas vapors are currently collected and are used as fuel in the boilers or are incinerated to 99.9% control efficiency.[3]

Current System Burns Waste as Fuel to Produce Power

The current vapor recovery and boiler system is designed to prevent pollution by using waste gas vapors as in the power boilers as a primary fuel source. All three boilers are equipped to co-fire vapor recovery system waste gas and oil. Thus, waste gas offsets any need for supplemental fuel oil. Incinerators are only used to destroy excess waste gas which can not be used in the power boilers.[4] The current use of waste gas as a fuel source is a pollution prevention alternative which was previously touted by APSC and the agencies, it is not clear if there is actually a net environmental benefit for abandoning this pollution prevention approach.

The Proposed System Will Produce Pollution

Therefore, to really understand the environmental benefits or impacts associated with the proposal, a quantitative analysis must be performed to determine what fraction of the waste gas is used as fuel and what fraction is actually combusted as waste. One must also compare the amount of supplemental fuel used to continuously fire the waste gas incinerators versus the lower supplemental auxiliary propane fuel requirements for the vapor combustors. It is not clear if the proposed vapor combustor system will produce higher carbon monoxide (CO) emissions due to numerous "cold-starts" versus a continuously fired waste gas incinerator. While there may be a net environmental benefit of the proposal, it is impossible to tell from the data provided by APSC, and the lack of technical analysis and review in the Environmental Assessment provides no comfort level this potential environmental impact has been properly evaluated.

No Emission Estimate Was Provided To Substantiate Impact Conclusions

[3] As reported by APSC to EPA, in the 1998 Incinerator A emission test.
[4] Alyeska Pipeline Service Company, Prevention of Significant Deterioration Application for the Valdez Marine Terminal Vapor Control Project, Submitted to ADEC on October 24, 1995.

The SWRG is concerned an insufficient number of vapor control solutions were evaluated, and are not confident the most environmentally sound option was selected. For example, vapor combustor system could have been installed to handle vapors from both the storage tanks and tanker vapors at a 99%+ control efficiency. Hazardous air pollutants emitted from the Ballast Water Treatment Facility (BWTF) continue to pose a significant environmental impact. There is no proposed alternative which examines the most environmentally sound emission control option for all major emission sources at the terminal (storage tanks, BWTF, and tanker loading emissions). In fact, the reluctance to look at a synergistic solution now to effectively control all major emission sources may preclude a cost-effective emission control solution for the BWTF, due to the loss of economies of scale in any combined emission control scheme.

All Emission Control Options Were Not Considered

The SWRG is very concerned no apparent effort to enlist EPA's technical review of this major emission control change at the nation's largest terminal before concluding the air emission impacts are minor. The lack of consultation with EPA is disturbing in light of the use of the existing vapor recovery system as an essential facility design component for compliance with EPA's Marine Vessel Loading Rule 40 CFR, Part 63, Subpart Y for control of hazardous air emissions. It is not clear to the SRWG if the all the aspects and requirements of 40 CFR 63, Subpart Y been addressed once the vapor recovery system is decommissioned and replaced with IFRs and vapor combustors.

While, APSC has assured the SRWG and BLM the vapor combustor systems has been properly sized to provide vapor control for the maximum tanker loading rate expected and sufficient flexibility to shut-down various portions of the system for inspection, maintenance, testing and repairs, several members of the SRWG remain concerned there may be requests from APSC in the future to by-pass the vapor combustors due to inadequate sizing.

Recommendation: To ensure air quality impacts associated with the proposed decommissioning of the waste gas incinerators and the installation of the proposed vapor combustors is properly evaluated and understood, the SRWG requests BLM to consult with EPA Region 10 regarding the emission benefits and impacts of the proposal and revise the Environmental Assessment and decision accordingly based on EPA's technical review and advice. The SWRG request both BLM and EPA to evaluate the alternative options to develop the most environmentally sound emission control option for all major emission sources at the terminal (storage tanks, BWTF, and tanker loading emissions). The SRWG also recommends BLM condition the vapor combustor approval to prohibit tanker loading unless vapors are routed to a control device (no uncontrolled loading).

Have the fire and hazard issues been properly addressed?

The SRWG remains concerned there are fire and hazard issues associated with installation of vapor combustors near the berths, which warrant careful scrutiny. The current proposal calls for the use of passive detonation arrestors which are prone to fouling at high vapor flow rates and must be inspected and cleaned with a frequency commensurate with the combustor utilization rate. The system must be designed to have adequate passive detonation arrestors installed to maintain both explosion prevention safeguards and the required availability.

Hazard Concerns Linger

<u>Recommendation</u>: To ensure fire and hazard issues associated with the proposed decommissioning of the waste gas incinerators and the installation of the proposed vapor combustors is properly evaluated and understood, the SRWG requests BLM further examine the type of detonation arrestor proposed and provide a technical basis for supporting the proposed FONSI.

Appendix H – Ballast Water Treatment

Description of the Proposal

APSC is proposing sweeping changes to every major system component of the Valdez Marine Terminal (VMT) with the exception of sorely needed upgrades to the Ballast Water Treatment Facility (BWTF) to control hazardous air pollutants and cumulative oil discharges into Port Valdez.

Was an Independent Technical Analysis Completed by BLM?

The Environmental Assessment ignores the massive air and water pollution problem at the BWTF and rationalizes inaction on this important issue because the applicant did not propose a pollution prevention alternative for the BWTF. Appendix A and Section 1.1.1 (Scoping and Consultation) of the Environmental Assessment provides no documentation to support consultations were conducted or requested with either the Environmental Protection Agency (EPA) or the Alaska Department of Environmental Conservation (ADEC) on air quality, water quality or other environmental issues of importance to this project, as required by 40 CFR 1500.1 Consultation with EPA is critical since they are the leading federal agency charged with the protection of the environment, and relative to the BWTF EPA retains all authority related to emission control of hazardous air pollutants; this issue has not been delegated to ADEC.

Environmental Assessment Analysis is Incomplete and Lacks Basis

The Environmental Assessment comes to the erroneous conclusion that: *"VMT SR is expected to reduce long-term environmental impacts;"*[1] which does not seem plausible in light of the lack of a pollution prevention solution to address the long-term environmental impact at the BWTF.

Major Issues of Concern

One of the largest remaining sources of air and water pollution at the Valdez Marine Terminal (VMT) is the Ballast Water Treatment Facility (BWTF). Air emission control, water pollution control, and treatment for nonindigenous species (NIS) are priority issues which should be addressed as part of the environmental evaluation for Strategic Reconfiguration.

While the APSC Environmental Report states the BWTF will experience a significant decline in throughput and modifications to the BWTF will be necessary,[2] the report specifically excludes Strategic Reconfiguration retrofits to improve facility functionality. The report appears to be internally inconsistent on the BWTF and conflicts with intended NEPA requirement to consider pollution prevention alternatives.

Lack of a BWTF Pollution Control Mitigation Plan May Warrant an EIS Review

APSC is proposing to exclude BWTF modifications from the scope of the Strategic Reconfiguration Project; however, the BWTF is in need of modifications to reduce air and water pollution, and to reduce the risk of NIS invasion in Port Valdez.

[1] BLM Environmental Assessment, Section 4.5, December 1, 2004.
[2] APSC SR Environmental Report, August 2004, p. 4-33

The inability to effectively integrate air and water pollution controls for the BWTF into the Strategic Reconfiguration Project may trigger the need to study the issue further under an EIS. While APSC's Environmental Report proposes one approach to SR, there is very little discussion on alternative approaches. It seems there are a number of potential alternatives to reconfigure the VMT which could result in the desired economic benefit while successfully addressing air and water pollution impacts from operations.

Specific choices approved in the Environmental Assessment may limit or restrict future options for emission control at the BWTF; thus, it is imperative that the BWTF be considered during this time. For example, if the vapor recovery system is eliminated, options for cost effective control of air pollution at the BWTF are limited. NEPA Regulations prohibit an agency from taking actions which would limit reasonable alternatives to reduce environmental impact.[3]

SR Project as Proposed May Unreasonably Eliminate Economic Emission Control Options for the BWTF

Unless this important issue can be resolved or mitigated in the Environmental Assessment, an EIS may be needed to examine the important inter-relationships and environmental alternatives for the largest remaining pollution source at the VMT.

A number of concerns were raised by the SRWG regarding the BWTF:

- Air pollution should be controlled at the BWTF. The BWTF is the largest remaining source of air pollution at the VMT and should be addressed as part of SR.
- The National Emission Standards for Hazardous Air Pollutants at Organic Liquid Distribution facilities (NESHAP OLD) require emission control in the 80's crude oil recovery tanks by no later than 2007. The control must be equal to or greater than the emission control which can be achieved by an internal floating roof. ASPC's Environmental Report does not address how this requirement will be met.

There is no Emission Control Proposed for the 80's Tanks as Required by EPA's Hazardous Air Pollution Control Regulations

- BWTF wastewater sources are contaminated with a number of Hazardous Air Pollutants (HAPs), including, benzene, ethylbenzene, toluene, and xylene (BETX), hexane, and a number of other listed HAPs. Of these HAPs, benzene exposure presents the greatest risk to human health and the environment and is a known carcinogen. However, all BETX compounds have serious health effects.
- The large quantity of BETX emissions currently emitted from the BWTF and other OLD wastewater sources is a major concern due to serious human health consequences of exposure to these chemicals.
- The extent of the continued air pollution problem from the BWTF is best illustrated by EPA's own studies. Using the EPA WATER9 air emission model, EPA estimates[4] that the VMT emits 130 tons per year (tpy) benzene, 283 tpy total BETX, and 360 tpy total HAPs. To put this

EPA's Hazardous Air Pollution Estimates for the Terminal Should Be Used

[3] 40 CFR 1506.1

[4] Air Emissions from Ballast Water Storage and Treatment: Valdez Marine Terminal, October 2003, Abstract

extremely large source of air toxic emissions into perspective, a typical West Coast Refinery emits only 1-3 tpy of benzene. In other words, the VMT benzene emissions are roughly equivalent to the benzene emissions resulting from co-locating 65 refineries in the Valdez air shed. A toxic air emission source as large as the VMT is an obvious issue which needs to be addressed under Strategic Reconfiguration and any Environmental Assessment of the VMT.

- The Environmental Assessment cites existing emissions of hazardous air pollutants from the VMT as totaling 122.9 tons per year with benzene, a known carcinogen, being emitted at the rate of 43 tons per year. These emission rates appear to have been directly taken from modeling performed by APSC. These emission rates as cited exceed Environmental Protection Agency's major source threshold for hazardous air pollutants both singly and in combination. Unfortunately, these emission rates are not in agreement with modeling performed with the standard models (Water9) used by the Environmental Protection Agency for emissions analysis. The Environmental Assessment should have used the emissions estimates of the U.S. Government agency charged with the mission of making and having the expertise to make such estimates.
- The Environmental Assessment states in Section 3.4.2 that neither the EPA nor ADEC has established ambient HAP standards. The EPA has recently finalized the National Emission Standard for Hazardous Air Pollutants Organic Liquid Distribution (NESHAP-OLD)[5]. Except for the reconsideration of emissions from waste water, the rule is final and applies to all crude oil handling equipment at the VMT to include, crude oil piping, crude oil storage tanks, and recovered crude oil tanks (80s Tanks). An environmentally friendly resolution (now under consideration by EPA) that would remove the wastewater exemption from the rule would cause all of the tanks and open processes of the Ballast Water Treatment Facility to be subject to HAPs regulation. The Environmental Assessment cannot summarily dismiss the environmental effects of HAPs emissions without considering the final portions of the NESHAP-OLD; compliance on these issues is mandated by 2007.
- Will proposed Strategic Reconfiguration changes to air quality control (e.g. shutdown of the current incineration system) make it more difficult for a cost effective air emission control solutions to be achieved at BWTF? For example, one cost effective solution for air emission control is to cover, collect and incinerate BWTF air toxic vapors. With the incineration system decommissioned, this will no longer be an option. This is clearly a problem in phasing the projects as multiple benefits are not addressed.
- Water pollution should be controlled at the BWTF. The BWTF is the largest remaining source of water pollution at the VMT and should be addressed as part of SR. It is estimated that over ¾ of a barrel of oil is discharged into Port Valdez on a daily basis. Cumulative oil discharges for the last 25 years of operation, on the order of 10,000-15,000 bbls, have polluted Port Valdez and will continue to accumulate if not addressed under SR.

Approximately One Barrel of Oil is Discharge into Port Valdez Every Day

- Currently, 9.5 million gallons per day of treated ballast water is discharged into Port Valdez. This effluent contains a few parts per million of total recoverable oil and grease and approximately 5 to 10 parts per billion dissolved benzene, toluene, ethylbenzene, and xylene (BTEX). Although the concentrations are quite low,

[5] 40CFR63 Subpart EEEE

the flow rates are very high resulting in significant quantities of pollutants being discharged into Port Valdez on a daily basis. It is unreasonable to believe that there is no cumulative impact from this type of operation.

It is Unreasonable to Conclude There is No Cumulative Impact From BWTF Oil Discharges

- Recent studies of water quality in Port Valdez indicate that oil with the "finger print" of the oil being discharged was observed at all sampling locations throughout Port Valdez.[6] Recent reports and studies have shown the toxicity of oil spilled to the environment is greater than previously thought.[7] Therefore, it is important that pollution prevention measures with respect to effluent discharges as contemplated in Section 23 of the Grant and Lease for the TAPS right-of-way be fully embraced with specific plans to decrease the total quantity of oil being discharged into Port Valdez. Discharge of hydrocarbons to Port Valdez should be mitigated by better characterizing the ballast water treatment process and then applying best available control technologies.
- Why isn't Strategic Reconfiguration considering ways in which oil discharges under the NPDES permit could be improved to protect water quality and the marine habitat?
- Why isn't oil accumulation in the port being addressed under the environmental analysis?
- APSC's Environmental Report acknowledges that the NIS concern is increasing as more segregated ballast water is discharged into Prince William Sound each day. NIS is globally recognized as a significant environmental risk with many ports adopting management and treatment requirements. The current ballast water system at VMT is advantageously killing NIS in unsegregated ballast; however, double hull tankers are increasing the amount of segregated ballast carrying potential NIS. Segregated ballast containing NIS is discharged directly into Port Valdez without any NIS treatment control.
- Any major modification to the VMT should be forward thinking and should examine the potential for shoreside treatment of NIS given the following <u>questions</u> and <u>concerns</u>:
  - Nonindigenous species (NIS) impacts should be controlled at the BWTF. Crude oil tankers are the largest source of NIS introduction into PWS. While tanker-based NIS control technology is still under development, technically viable shore-side NIS treatment options are available and should be considered as part of SR.
  - Isn't this the optimal time to reconfigure and use available "unused" storage capacity (either at the BWTF or empty crude oil storage tanks) to treat segregated ballast water onshore for NIS?

<u>Recommendation</u>: To ensure the SR Project includes alternatives which consider the synergistic benefits and alternatives of providing air, water, and NIS pollution solutions for the BWTF along with major changes proposed for the VMT, the SRWG requests BLM consult with EPA, and provide a full examination of this issue to be addressed in the Environmental Assessment.

[6] See Reference 14, Salazar, et. al. 2002.
[7] See Reference 15, Barron, 2002.

Appendix I – Operations & Maintenance

Description of the Proposal

APSC is proposing sweeping changes to every major system of the Valdez Marine Terminal (VMT) which will result in major changes to how the facility is operated and maintained. Major changes in Operation and Maintenance (O&M) may result in potential environmental risk associated with reduced capacity, reduced reliability, and reduced redundancy. There is no information provided in the Environmental Report to explain how this risk will be mitigated by the applicant.

APSC plans to relocate the Operations Control Center (OCC) to Anchorage as early as 2006, and operate the Valdez Marine Terminal from Anchorage. There is no information provided in the Environmental Report to explain how this environmental risk will be mitigated by the applicant.

APSC's Environmental Report discusses the potential to install ultrasonic flow meters at the East and West Metering Buildings,[1] which raises a number of concerns regarding leak detection system accuracy; however, the Environmental Report is silent on any risk associated with this proposal.

Was an Independent Technical Analysis Completed by BLM?

The Environmental Assessment is silent on the potential risk associated with the major changes in O&M which may result in potential environmental risk associated with reduced: capacity, reliability, and redundancy. There is no information provided in the Environmental Assessment to explain how this risk will be mitigated or if there are alternative systems and designs which would be more appropriate.

Major Issues of Concern

APSC is planning to replace or significantly reconfigure virtually every system by which it conducts operations at the VMT. It is important to understand the system redesign and their planned operational roles. The SRWG remains concerned there are a number of operations and maintenance issues which may potentially increase the environmental risk associated with reduced capacity, reduced reliability, reduced redundancy and remote terminal operation.

Operational Risks Abound When a Facility Flows 900,000 bbls While Reconstructing Virtually Every Major System

APSC will need to operate each existing facility and process to keep TAPS flowing while it converts to its reconfigured counterpart. Operational risks abound when an operator attempts to simultaneously construct major changes to a facility while over 900,000 bbls are running through the system. The Environmental Assessment does not present this operational risk nor require the applicant to develop a plan to mitigate it.

[1] Alyeska Pipeline Service Company SR Environmental Report, August 2004, Figure 4-36.

The Environmental Assessment also erroneously concludes the proposed actions are designed to simplify plant operations, making the terminal "easier to operate and maintain."[2] This conclusion is counterintuitive and requires additional evidence to be substantiated. The SWRG expects new systems such as internal floating roofs, the freshwater firewater systems, and reduced capacity in the crude oil storage tanks to create its own set of new operational challenges and risks, especially in light of the expected massive reductions in staffing to operate these new systems.

The SRWG remains concerned the entire focus for the terminal has been, and will continue to be, the Strategic Reconfiguration Project. Such high profile attention on the SR Project leaves little attention focused on continued operation, inspection, maintenance and repair of the existing operations.

APSC seeks deferrals and elimination of important inspection and testing requirements

In anticipation of reconfiguration, APSC appears to be deferring maintenance on existing facilities and requesting waivers for inspections and other regulatory requirements to buy additional time until Strategic Reconfiguration can be implemented. Although discretionary maintenance may legitimately be deferred, regulatory-mandated maintenance and inspection cannot be deferred.

Deferral of inspections, maintenance and repair of existing facilities pending replacement is not acceptable

For example, under a formal appeal of their Title V air quality permit APSC demanded relief from the required air pollution testing of their waste gas incinerators, claiming air pollution testing was unnecessary since they may in the future take these incinerators out of service.[3] This request ignores the importance of the current state of air quality in the Valdez air shed and contravenes the basic premise of the NEPA process (under Section 1506.1) which requires no action be taken concerning the proposal that may have an adverse environmental impact until a record of decision is final. APSC has also requested extensions beyond the nominal 10 year internal inspection intervals for several crude oil storage tanks.[4] Deferral of inspections, maintenance and repair of existing facilities pending replacement is not acceptable since failure of the existing equipment could adversely affect health, safety, or the environment. Maintenance activities for existing facilities and equipment must be kept at a level that satisfies all regulatory requirements.

The SRWG was surprised to find the Environmental Assessment did not address any of the risk related issues raised in the Joint Pipeline Office report, entitled "Assessment: Valdez Marine Terminal Reliability Centered Maintenance (RCM) Progress," or how these issues many be further exacerbated during the construction window, or as a result of completely reconfigured facility components. With the current JPO concerns about Reliability Centered Maintenance, how will the JPO assure the functionality, capacity, reliability, and redundancy of the reconfigured systems at the VMT post-reconfiguration? The Environmental Assessment is also silent on how additional abatement procedures will be considered to improve the safety of the operation, per Section 9 of the Agreement and Grant of Right-of-Way.

[2] Environmental Assessment for VMT SR Project, Executive Summary, December 1, 2004.
[3] Alyeska Pipeline Service Company- Air Operating Permit No. 08TVP01 Request for Hearing and For Stay of Permit Conditions, APSC request to ADEC Commissioner Ballard, December 24, 2003.
[4] VMT Crude Relief Tanks 1 and 3 Internal Inspection Deferral, APSC request to ADEC, March 10, 2004.

While the Environmental Assessment acknowledges "operational problems" with the 80's and 90's tanks, no solution is proposed to this known environmental risk in the SR project design or in the Draft Record of Decision.[5]

Furthermore, the individual performance of existing facilities and processes at the VMT has been well documented. The operational performance sought for reconfigured facilities and processes needs to be compared with the operational performance currently existing to ensure reductions are not granted and areas of deficiency are improved. Unfortunately APSC uses its own quality assurance system and metrics. Citizen stakeholders have no way of knowing if APSC's own quality assurance standards are being met and if APSC's quality assurance is adequate considering the environmental concerns of the citizen stakeholders. The environmental assessment needs to consider quality assurance from the environmental performance perspective.

APSC's Environmental Report discusses the potential to install ultrasonic flow meters at the East and West Metering Buildings.[6] There is a concern that less accurate ultrasonic flow meters may adversely impact pipeline and tank farm leak detection system accuracy. Yet the Environmental Assessment sheds no light on how leak detection concerns and risks may be mitigated.

APSC has plans to relocate the Operations Control Center (OCC) to Anchorage as early as 2006, and operate the Valdez Marine Terminal from Anchorage. This plan is confirmed in the Environmental Assessment at Section 4.3.4.2 "Relocation of the Operations Control Center, but no mitigation measures are proposed to reduce this known impact:

> *"Relocation of OCC would largely involve two major components: (1) relocation of the communications and computer infrastructure for controlling pipeline and VMT operations to a new location in Anchorage and (2) reassignment for 20 OCC controllers now working in Valdez to the new Anchorage location."*

How can the Major Operations Control Center for the Nation's Largest Terminal Have No Impact on Environmental Risk?

The Environmental Assessment dismisses any regulatory obligation to review this substantial known operating change by drawing the unsubstantiated conclusion that the: "*OCC fulfills essential control functions but does not contribute directly to environmental impacts*." How can the major Operations Control Center for the nation's largest terminal not have an impact on environmental risk? This is an incongruous conclusion, which is easily challenged by the obvious environmental risks and operational repercussions of a complete shut-down of OCC. The SRWG is not confident remote OCC operation will provide the protection needed to safely operate the terminal if the proposed Anchorage OCC is completely disconnected from the terminal due to power failure, earthquake, natural disasters, or other unexpected operational malfunctions. The inability to properly operate the facility could result in severe environmental consequences, such as increased air pollution resulting from uncontrolled loading, increased oil spill risks associated with tank overfill, increased pollution discharged into the port due to an inability to properly operate the BWTF, or loss of major safety and control systems resulting in increase fire and explosion risk, etc. There is no information provided to support Strategic Reconfiguration equipment will be installed with advanced technology such that the equipment can reliably be operated from a remote location.

[5] Environmental Assessment for VMT SR Project, Section 4.3.4.1, December 1, 2004.
[6] Alyeska Pipeline Service Company SR Environmental Report, August 2004, Figure 4-36.

As noted in Appendix C the relocation of 20 OCC controllers will have a major adverse impact on this remote terminal's ability to rapidly and responsibly respond to a fire and other emergency events, again resulting in potentially significant environmental impact. There are also concerns that reduced manning at the facility, due to relocation of the OCC, could result in an increased security issue dues to less "eyes-and-ears" at the terminal. Security decreases could result in major environmental consequences from acts of sabotage or terrorism.

Recommendation: To ensure the SR Project examines alternatives and environmental risks associated with operation and maintenance of the terminal post-SR, the SRWG requests BLM provide a full examination of O&M issues in a revised Environmental Assessment and develop appropriate mitigation measures to reduce environmental risks associated with all known changes to the terminal.