2005 Recertification Application to the U.S. Coast Guard

Prince William Sound Regional Citizens' Advisory Council

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Prince William Sound Regional Citizens' Advisory Council

"Citizens promoting the environmentally safe operation
of the Alyeska terminal and associated tankers."

(a) Membership information

(1) Selection and appointment process

Membership in the Prince William Sound Regional Citizens' Advisory Council (PWSRCAC) is governed by its bylaws. Member organizations are communities affected by the Exxon Valdez oil spill and interest groups with a stake in the region. Member organizations appoint individuals to represent them on the PWSRCAC Board of Directors.

Directors serve at the pleasure of the organization they represent. The bylaws require each representative be a resident of the State of Alaska. The bylaws define an Alaska resident as someone who intends to make Alaska home, does not claim residency elsewhere, and meets two of the following criteria:

- Owns or rents a home in Alaska.
- Is a registered voter in Alaska and is not registered to vote in any other state.
- Has a current Alaska driver's license and does not maintain a driver's license from any other state.
- Earns primary income in Alaska and is not employed full-time in another state.

Directors serve staggered two-year terms. There is no limit to how many terms a director may serve. When a director's term expires, the member organization submits in writing the name of the person it wishes to be seated on the board. Directors are formally seated by a vote of the directors at the annual meeting in March. When a director leaves in mid-term, the member organization may appoint a replacement to fill the unexpired term, subject to formal seating by the Board of Directors.

If a member organization resigns from PWSRCAC, applications from other organizations representing the same constituency are solicited through advertisements in newspapers in the region affected by the spill.

(2) Board of Directors

Director	Home	Organization Represented
Tom Jensen	Anchorage	Alaska State Chamber of Commerce
Stan Stephens	Valdez	Alaska Wilderness Recreation and Tourism Assoc.
Sheri Buretta	Anchorage	Chugach Alaska Corp.
Nancy Bird	Cordova	City of Cordova
John Velsko	Homer	City of Homer
Jane Eisemann	Kodiak	City of Kodiak
Stephen Lewis	Seldovia	City of Seldovia
John French, Ph.D.	Seward	City of Seward
Jo Ann McDowell, Ph.D.	Valdez	City of Valdez

Connie Stephens	Valdez	City of Valdez
Marilynn Heddell	Whittier	City of Whittier
Pete Kompkoff	Chenega	Community of Chenega
John Allen	Valdez	Community of Tatitlek
Patience Andersen-Faulkner	Cordova	Cordova District Fishermen United
Blake Johnson	Nikiski	Kenai Peninsula Borough
Al Burch	Kodiak	Kodiak Island Borough
Jim Nestic	Old Harbor	Kodiak Village Mayors Association
Walter Parker	Anchorage	Oil Spill Region Environmental Coalition
Louis Beaudry	Cordova	Prince William Sound Aquaculture Corp.

The following organizations hold ex-officio seats on the board of directors: Alaska Department of Environmental Conservation (ADEC); Alaska Department of Fish and Game, Habitat Division; U.S. Forest Service; Alaska Department of Natural Resources; Alaska Division of Homeland Security and Emergency Management; U.S. Environmental Protection Agency; U.S. Department of the Interior; U.S. Coast Guard, Marine Safety Office Valdez; Oil Spill Recovery Institute (Cordova); National Oceanic and Atmospheric Administration.

(3) Technical committee membership and residency

PWSRCAC's work is assisted by four volunteer technical committees that operate with financial and staff support from PWSRCAC. Committee volunteers are recruited annually or as needed by print and radio advertisements and by press releases in the PWSRCAC region.

The current makeup of the committees is as follows:

OSPR: Oil Spill Prevention/Response Committee	
Name	**Home**
Jerry Brookman (Chair)	Kenai
Sara Bruce	Kodiak
Freddie Christiansen	Anchorage
Jon Dahlman	Seward
Natasha Edwards Casciano	Cordova
John French, Ph.D.	Seward
Joe Jabas	Valdez
Walter Parker (Council Director)	Anchorage
Karl Pulliam	Seldovia
Gordon Scott	Girdwood

SAC: Scientific Advisory Committee	
Name	**Home**
Peter Armato, Ph.D.	Seward
John French, Ph.D.	Seward
Roger Green, Ph.D.	Anchorage
John Kennish, Ph.D.	Anchorage
Pete Kompkoff (Council Director)	Chenega Bay

Andra Love	Anchorage
Michelle Hahn O'Leary	Cordova
AJ Paul, Ph.D.	Fairbanks
Richard Tremaine (Chair)	Anchorage

TOEM: Terminal Operations and Environmental Monitoring Committee	
Name	**Home**
Bob Benda (Chair)	Valdez
Jo Ann Benda	Valdez
Jon Bower	Juneau,
Lynda Hyce	Valdez
Denise Saigh	Anchorage
George Skladal	Anchorage
Scott Snedden	Fairbanks
Stan Stephens (Council Director)	Valdez
Cory Noel Toye	Anchorage
Janice Wiegers	Fairbanks
Dave Wiley	Valdez

POVTS: Port Operations and Vessel Traffic Systems Committee	
Name	**Home**
Duane Beland	North Pole
Cliff Chambers	Valdez
Bill Conley (Chair)	Valdez
Tex Edwards	Anchorage
Jane Eisemann (Council Director)	Kodiak
Pete Heddell	Whittier
Agota Horel	Valdez
Linda Lee	Valdez
Connie Stephens (Council Director)	Valdez

(b) Meetings publicized and accessible to communities

Board meetings of the PWSRCAC are publicized through press releases and advertisements in local newspapers in the region. All meetings are open to the public, with the exception of executive sessions. Committee meetings and board teleconferences are also open to the public. The public is always provided opportunity to comment.

Before board meetings, agenda packets with background information are sent to directors, ex-officio members, industry representatives and other interested parties.

In addition, PWSRCAC engages in a wide variety of outreach activities to promote wider public awareness of itself, its work, and the environmental safety issues associated with marine transportation of North Slope crude oil.

The council publishes the Observer, a quarterly newsletter, and distributes several thousand free copies of each issue. Approximately 2,500 are mailed to individual subscribers, and up to 4,000 copies (depending on season) are distributed through outlets in PWSRCAC

member communities and at the numerous trade shows, conferences and other gatherings we attend. The council also publishes a 28-page annual report that is mailed to about 500 recipients, with the remainder distributed at the same kinds of trade shows and events as the Observers.

In addition, we conduct a year-round public education campaign using the radio stations in our region. This campaign consists of recorded radio spots describing our mission, work, and the issues we deal with.

PWSRCAC has a community outreach program to ensure public awareness of council activities and to promote citizen participation in its board, committees and projects. Our Community Liaison attends many outreach events (most of them in the PWSRCAC region); coordinates the attendance of other staff, board and committee members at local events; makes trips with the executive director to meet with community leaders about PWSRCAC related issues; makes presentations on PWSRCAC to audiences in and outside Alaska; and works with other groups and agencies to fund special education projects in the PWSRCAC region.

We conduct an annual public opinion survey in the PWSRCAC region to assess awareness of the issues we address, our work, and our organization.

Here are some examples of outreach activities conducted or planned during the current recertification period by the Community Liaison and by PWSRCAC board members, and staff:

January 2004

Community Liaison Linda Robinson was invited to judge the Rural Science Fair in the village of Old Harbor on Kodiak Island. Information on the council was provided and PWSRCAC coloring books were given to students from Old Harbor, Larsen Bay, Chiniak, Akhiok and Port Lions. Information on invasive species was given to the teachers. The City of Kodiak, the Kodiak Island Borough and the Kodiak Village Mayors Association are member entities of the council.

February 2004

The council's information booth was set up and information handed out at the Alaska Forum on the Environment in Anchorage. Project Manager Lisa Ka'aihue facilitated a session.

Community Liaison Linda Robinson and Project Manager Joe Banta attended a Geographic Response Strategy workshop in Homer. This team meeting was to assist in outreach for this project. Homer is a member of the council.

Community Liaison Linda Robinson set up and staffed the council information booth for the annual conference of the Alaska Wilderness Recreation and Tourism Association, a member entity of the council.

March, 2004

The council co-hosted a legislative reception with the Prince William Sound Community College and the City of Valdez for legislators and their staff in Juneau. The council's booth was set up

and information on the council was distributed by Community Liaison Linda Robinson, Project Manager Lisa Ka'aihue, and Executive Director John Devens.

The council hosted a "15 Years After the *Exxon Valdez* Oil Spill" reception in Anchorage. Industry and other agencies were invited to set up booths to highlight advances made since the spill. There were 15 tables including industry, the Coast Guard, and other organizations such as the Cook Inlet Regional Citizens' Advisory Council and the Alaska SeaLife Center. A panel of early directors discussed their vision for the citizens' councils at that time, and their opinion of how the councils have developed.

The council co-hosted a community reception in Kodiak for a presentation on shorezone mapping. Executive Director John Devens and Community Liaison Linda Robinson attended. Our partner in this outreach effort was the Cook Inlet Regional Citizens' Advisory Council.

The council booth was set up and Community Liaison Linda Robinson attended a "15 Years After the *Exxon Valdez* Oil Spill Remembrance" hosted by Alaska Oceans and other environmental groups.

Several people from PWSRCAC attended Kodiak Comfish, Kodiak's annual conference for the fishing community. Community Liaison Linda Robinson and Administrative Assistant Bernie Cooper set up and staffed the council booth and distributed information on the council. The City of Kodiak, Kodiak Island Borough and the Kodiak Village Mayors are members of the council.

April 2004

Students from Alma College in Michigan visited the council offices in Valdez and Anchorage for presentations on the council, its concerns, and its work.

Community Liaison Linda Robinson and Project Manager Lisa Ka'aihue set up the council's booth and distributed information at a legislative affairs reception in Juneau.

May 2004

Community Liaison Linda Robinson and Information Systems Assistant Tracy Leithauser set up the council's booth and distributed information about the council on Polaris Earth Day at the Polaris School in Anchorage.

Executive Director John Devens addressed the National Academy of Sciences' Committee on Understanding Oil Spill Dispersants: Efficacy and Effects in Seattle. He focused on the need to take into consideration the proven efficacy of all spill response options during an event, not just dispersants, and on the documented success of mechanical recovery techniques since the implementation of the Oil Pollution Act of 1990 (OPA90).

The council sponsored a children's table at the annual Shorebird Festival in Cordova. Community Liaison Linda Robinson handed out coloring books and taught children to make

origami birds. The City of Cordova, Cordova District Fishermen United, and the Prince William Sound Aquaculture Corp., based in Cordova, are member entities of the board.

Project Manager Rhonda Williams and Public Information Manager Stan Jones represented the council at the annual Tatitlek Native Heritage Festival, a week long celebration of native heritage and arts. The community of Tatitlek is a member entity of the council.

Administrative Assistant Tamara Byrnes set up the council booth and distributed information at the Valdez Marine Expo over Memorial Day weekend. The City of Valdez is a member entity of the council.

June 2004

Community Liaison Linda Robinson set up the booth and distributed information about the council at the Arctic and Marine Oilspill Pollution conference in Edmonton, Alberta. Other staff attending this conference were Project Managers Lisa Ka'aihue, Joe Banta and Tom Kuckertz. Board member John French attended as well.

Deputy Marilyn Leland, Executive Director John Devens, Executive Assistant Jennifer Fleming and board member Patience Andersen Faulkner represented the council at Copper River Nouveau, an annual fundraiser for the Prince William Sound Science Center in Cordova.

Community Liaison Linda Robinson set up the council booth and distributed information about the council at the annual Walk to Whittier. The City of Whittier is a member entity of the council.

July 2004

Administrative Assistant Tamara Byrnes set up the council booth and distributed information at the annual Fourth of July celebration in Valdez.

Community Liaison Linda Robinson and Administrative Assistant Tamara Byrnes set up the council booth and distributed information on the council at the second annual Alaska Oceans Festival in Anchorage.

August 2004

Administrative Assistant Tamara Byrnes set up the booth and distributed information at the annual Valdez Goldrush celebration.

The council hosted a presentation on non-indigenous species at the Alaska Oceans and Islands Center in Homer. Presentations were given by council staff as well as staff from the U.S. Fish and Wildlife Service, Alaska Department of Fish and Game, NOAA and the Kachemak Bay

Research Reserve. The City of Homer and the Kenai Peninsula Borough are member entities of the council.

The council booth was set up at the annual Industry Appreciation Day festival in Kenai. Community Liaison Linda Robinson and volunteer Jerry Brookman joined the Cook Inlet PWSRCAC in distributing information about the councils.

September 2004

The council hosted a community reception in conjunction with its September quarterly board meeting in Kenai. Several members from the borough assembly and the city councils participated with the board and staff, as did as some community members.

October 2004

Community Liaison Linda Robinson made presentations about the council to people involved in fishing vessel training for oil-spill response in Cordova. She distributed maps of Potential Places of Refuge and requested comments.

Community Liaison Linda Robinson, Executive Director John Devens and board president Tom Jensen attended the annual meeting of the Alaska State Chamber of Commerce in Juneau. The booth was set up and information distributed. The Alaska State Chamber of Commerce is a member entity of the council.

November 2004

The council's Valdez office hosted seven delegates from an international visitor program titled Maritime Oil Safety. The participants were experts from the Baltic Sea watershed who traveled to the United States to increase their knowledge of methods used to prevent, contain and recover oil from spills. The delegates were very interested in PWSRCAC's dispersant research and in non-indigenous species research.

Several people from the council attended Pacific Marine Expo in Seattle. This event focuses on fishermen and other mariners. Community Liaison Linda Robinson, Deputy Director Marilyn Leland, Executive Director John Devens, and Michelle Hahn O'Leary of the Scientific Advisory Committee staffed the booth and distributed information on the council.

Several people from the council attended the annual Society for Environmental Toxicology and Chemistry conference in Portland. They included Community Liaison Linda Robinson and Project Manager Lisa Ka'aihue, board member John French and Jon Bower, a member of one of the council's technical advisory committees. The council booth was set up and staffed, Bower presented a poster session on Snow Sampling.

Executive Director John Devens addressed a meeting of the Puget Sound Oil Spill Early Action Task Force. The task force was formed after the Dalco Passage spill in Puget Sound to find ways to ensure a fast response to reports of oil spills. Devens addressed the group on PWSRCAC's structure and operations in Alaska.

December 2004

The council's annual Volunteer Appreciation Party was held Dec. 2. This event is to thank volunteers for the many hours they contribute to the mission of the council. Also invited are people from regulatory agencies, the oil industry, and other organizations that work with the council.

Year-long activities

Project Manager Dan Gilson made four visits to classrooms in Valdez public schools. These visits focused on natural resources and PWSRCAC's role in protecting those natural resources in Prince William Sound. More specifically, he discussed the Exxon Valdez Oil Spill and explained the issues of air quality, water quality, and non-indigenous species as they relate to the Valdez Marine Terminal.

(c) Interest groups represented

Commercial fishing interests are represented on the PWSRCAC by Cordova District Fishermen United. Aquaculture interests are represented by the Prince William Sound Aquaculture Corporation.

Alaska Natives are represented by Chugach Alaska Corporation. In addition, the predominantly Native communities of Chenega Bay and Tatitlek each have a seat on PWSRCAC, and six villages on Kodiak Island are represented by the Kodiak Village Mayors' Association.

Tourism in the region is represented by the Alaska Chamber of Commerce, and recreation interests are represented by Alaska Wilderness Recreation and Tourism Association.

The Oil Spill Region Environmental Coalition represents environmental interests. The coalition consists of the Alaska Center for the Environment, Alaska Marine Conservation Council, Cook Inlet Keeper (Chair), Kachemak Bay Conservation Society, Kodiak Audubon Society, Prince William Sound Alliance, and Prince William Sound Audubon Society.

Municipal governments in the region are represented by the cities of Cordova, Homer, Kodiak, Seldovia, Seward, Valdez and Whittier; the Kodiak Island Borough and the Kenai Peninsula Borough; and the Kodiak Village Mayors' Association.

(d) Activities

(1) Review of operations and maintenance of terminal and tankers:

(i) Terminal operations and maintenance

PWSRCAC's Terminal Operations Program is intended to monitor actual and potential environmental impacts stemming from the operation of the Valdez Marine Terminal, and to

review operational and maintenance practices at the facility in the interest of mitigating those impacts. Specific objectives of the Terminal Operations Program are: (1) to monitor, to develop, and to recommend PWSRCAC positions on Terminal operations issues; (2) to support maintenance and improvement of Valdez Marine Terminal (VMT) facilities; (3) to promote compliance with existing environmental regulations; and (4) to monitor enforcement of and funding for existing environmental regulations.

Strategic Reconfiguration Working Group

Since its reorganization of 2002, Alyeska has been engaged in an exercise to reconfigure its management, business, operational practices, and the Trans-Alaska Pipeline System (TAPS) itself. Alyeska Pipeline Service Company (APSC) has released conceptual aspects but few specifics of its "Strategic Reconfiguration." Documentation describing the criteria under which systems are being redesigned along with a good many of the changes themselves have been slow in coming to parties having responsibilities for protection of environmental and regulatory interests. PWSRCAC is working to open Alyeska Service Company's Strategic Reconfiguration processes and activities sufficiently to confirm that stakeholder interests with respect to its mission of "citizens promoting environmentally safe operation of the Alyeska terminal and associated tankers" have been adequately addressed. Specifically, PWSRCAC activities are directed toward (1) ensuring that OPA90 interests and concerns of PWSRCAC are adequately addressed in the Strategic Reconfiguration; (2) ensuring that design criteria driving the Strategic Reconfiguration are specifically identified and adequately address the citizen stakeholder concerns; and (3) ensuring that appropriate quality assurance standards are in place such that reconfigured facilities are in full compliance.

PWSRCAC was instrumental in forming a Strategic Reconfiguration Working Group to identify and to explore citizen stakeholder issues associated with the Strategic Reconfiguration. Participants in the Working Group, which first met on August 19, 2004, include PWSRCAC staff and board members, as well as personnel from the various state and federal agencies of the Joint Pipeline Office, from the U.S. Coast Guard, from the City of Valdez, and from Alyeska Pipeline Service Company.

The Working Group formed seven subgroups to examine the myriad of issues presented when Alyeska Pipeline Service Company submitted "Strategic Reconfiguration of the Valdez Marine Terminal: Environmental Report" to the Joint Pipeline Office along with a request for a finding of no significant impact (FONSI). The seven subgroups are (1) Fire Protection and Security Assets, (2) Operations and Maintenance, (3) Berth Facilities and Operations, (4) Air and Water Quality, (5) Socio-Economic Issues, (6) and Crude Oil Storage and Movement, and (7) SERVS (Ship Escort Response Vessel System) Reconfiguration. Each subgroup except one met and developed the issues of interest in its subject area.

PWSRCAC set up and maintains a web site to facilitate communication within the Working Group. The subgroups developed recommendations that were validated by the Working Group with the assistance of a PWSRCAC contractor, Environmental Solutions, and then passed to the Joint Pipeline Office to assist in its development of an Environmental Assessment for the proposed reconfiguration of the Valdez Marine Terminal.

Monitoring Decline in Production.

Declining production on the North Slope, along with the need to modernize and automate 30-year-old facilities, is causing Alyeska Pipeline Service Company to plan system-wide upgrades to its facilities under an all encompassing project called Strategic Reconfiguration. PWSRCAC wants reconfigured facilities to have better environmental performance and less risk

of spills into the environment. Because the reconfigured Valdez Marine Terminal will be in many respects downsized, staff continues to observe the decline in the throughput of oil loaded at the Valdez Marine Terminal to ensure that the capacity of the Terminal to move a throughput that now averages about 850,000 barrels per day is maintained without additional environmental risk to Prince William Sound.

VMT Inventory Level and Effects on Production

The Valdez Marine Terminal was designed to handle throughputs in excess of 2,000,000 barrels per day. The Valdez Marine Terminal was originally designed with four tanker berths and 18 large storage tanks (500,000 barrels each) to handle this throughput. Only two of the original four berths are now in operation and Alyeska Pipeline Service Company is considering a reduction in the number of crude oil storage tanks to as few as 12. PWSRCAC, the Joint Pipeline Office, and the USCG Captain of the Port are concerned, even with the decline in North Slope production, that crude oil storage will be insufficient to accommodate weather-caused delays forcing tankers to load and travel in marginal weather conditions that have higher risk of a spill. Staff monitored and continues to monitor inventory levels at the VMT. Numerous instances of inventory levels in excess of 70% were observed. Some of these would have resulted in inventory levels in excess of 100% if significantly fewer storage tanks, as contemplated under some of the reconfiguration strategies, were available to store incoming oil.

Skimmers in 90s Tanks and Management of Oil Buildup

The properties of the crude oil being transported from the Valdez Marine Terminal have changed such that significant quantities of paraffin-like substances are separating from the oil. Wax separating from the crude oil has been an operational problem for Alyeska Pipeline Service Company both in its crude oil storage tanks and in the large gravity separation tanks used in the processing of oily ballast water. With regard to the treatment of ballast water, wax accumulations have interfered with the weir skimmers in the gravity separation tanks such that quantities of oil in these tanks became so large that the State Fire Marshal deemed the risk of fire and explosion unacceptable because the tanks were designed to contain mostly water. Alyeska reduced the risk to acceptable levels by extraordinary manual skimming activities and by the installation of active oleophilic brush skimmers. PWSRCAC staff was active in consulting with the fire marshal and continue to monitor the installation, testing, and operation of the new skimmers.

NPDES Permit Renewal and Monitoring of Effluent.

Alyeska Pipeline Service Company under the terms of its National Pollutant Discharge Elimination System (NPDES) permit is discharging from its Ballast Water Treatment Facility approximately 10,000,000 gallons per day of treated ballast water containing a few parts per million oil and grease plus about 10 parts per billion BTEX (benzene, toluene, ethylbenzene, and xylene). Staff and a contractor (James R. Payne of Payne Environmental Consultants, Inc.) worked with Alyeska Pipeline Service Company, other citizen stakeholders, U.S. Environmental Protection Agency, and the Alaska Department of Environmental Conservation to modernize the laboratory methods used in monitoring the constituents of the effluent. Although Alyeska Pipeline Service Company participated in the development of the new monitoring requirements in the permit being renewed, it requested an adjudication upon issuance of the final permit. Alyeska Pipeline Service Company's request to revert to the old monitoring method was granted and PWSRCAC comments are again pending final action with the Environmental Protection Agency and the Alaska Department of Environmental Conservation.

Fire Protection Assets at Metering Facilities

In 1999, PWSRCAC became concerned that fire protection assets at the metering facilities might not be adequate to fight a fire. PWSRCAC viewed the situation seriously because all of the Trans Alaska Pipeline System throughput passed through these facilities and any fire occurring at the facility would have devastating consequences. PWSRCAC worked with Alyeska Pipeline Service Company to identify the fire risks and to mitigate the risks by means of redesigned fire foam systems recommended in part by a nationally known PWSRCAC contractor, Loss Control Associates (Bud Slye and Tony Semenza). Many variations in foam system design were considered. In January of 2004, Alyeska Pipeline Service Company selected a final design. The design was reviewed by Loss Control Associates in February 2004, which resulted in a recommendation, accepted by Alyeska Pipeline Service Company, for inclusion of a pressure relief valve. The upgraded foam system was installed, tested, and accepted by the State Fire Marshal in April 2004.

Air Quality Permits at VMT

Alyeska Pipeline Service Company operations at the Valdez Marine Terminal emit air pollutants under the terms and conditions of air quality permits issued under the authority of the U.S. Environmental Protection Agency by the Alaska Department of Environmental Conservation. Final Prevention of Significant Deterioration (PSD) and Title V (Clean Air Act) permits were issued in 2004 after considerable negotiations between ADEC and Alyeska Pipeline Service Company and after many comments and recommendations developed by PWSRCAC's contractor Environmental Solutions and staff. Alyeska Pipeline Service Company then requested adjudicatory hearings regarding the provisions of each permit and stays of implementation regarding certain provisions of the permits. Against the advice of PWSRCAC, Alaska's Commissioner of Environmental Conservation granted and settled some issues of concern to Alyeska Pipeline Service Company. However, issues related to visible emissions (opacity) are still pending before the Commissioner. PWSRCAC with the assistance of Environmental Solutions has again advised the Commissioner to keep the requirements that address visible emissions in the permits. Digital photographs of visible emissions taken by PWSRCAC staff in September 2004 and October 2004 are among the evidentiary materials provided by PWSRCAC to assist the Commissioner in the adjudication process.

Citizen Involvement in NESHAP-OLD

The final National Emission Standard for Hazardous Air Pollutants – Organic Liquid Distribution (NESHAP-OLD) rule was published by the U.S. Environmental Protection Agency in the Federal Register on February 3, 2004. As had been expected, based on previous interactions between PWSRCAC and the Environmental Protection Agency, the black oil exemption that would have exempted emissions from crude oil had been removed from the final rule; however, the agency retained the wastewater exemption (specifically citing ballast water as a wastewater) that would permit the continued emission of 360 tons per year (by EPA's estimate) of hazardous air pollutants from the Valdez Marine Terminal. With the aid of Environmental Solutions, a consultancy with expertise in the development of environmental regulations, PWSRCAC filed a Petition for Reconsideration with the Environmental Protection Agency on March 24, 2004. The petition alleged a flawed process in retaining the wastewater exemption. On April 23, 2004, PWSRCAC received notice that the Environmental Protection Agency had granted the Petition for Reconsideration. On July 26, Environmental Protection Agency officials visited the Valdez Marine Terminal to see first-hand the facilities emitting hazardous pollutants

in Valdez. On November 2, 2004, PWSRCAC, contractors, and many regulated entities having an interest in the reconsidered NESHAP-OLD met with Environmental Protection Agency in a teleconference at which the Environmental Protection Agency announced that wastewater will be included in the reconsidered rule that will be issued for public comment during the first half of 2005. Types of wastewater will include ballast water, maintenance water, and tank drawdowns. PWSRCAC is currently seeking experts to study the economic feasibility of installing emission controls for the waste water processes at the Valdez Marine Terminal.

BTEX Fate Study

PWSRCAC has been encouraging Alyeska Pipeline Service Company since 2002 to make measurements to characterize its emissions of hazardous air pollutants at the Valdez Marine Terminal. In March 2004, Alyeska Pipeline Service Company announced that it planned to engage in a comprehensive effort to characterize the dissolved air flotation and biological treatment processes at the Valdez Marine Terminal for emissions of hazardous air pollutants, among other things. Alyeska has shared preliminary results of its BTEX (benzene, toluene, ethylbenzene, and xylene) Fate Study with PWSRCAC staff and with our contractor, Payne Environmental Consultants. The preliminary results indicate that a considerable portion of the emissions of air pollutants occurred from the effluent flow turbulence in the exit weirs of the dissolved air flotation process and in the splitter box at the entrance to the biological degradation process. This discovery is important because the cost to control emissions from these parts of the ballast water treatment process appear to satisfy the Environmental Protection Agency's economic feasibility requirements of $2000 to $5000 per ton of emissions controlled.

Microbial Efficiency of Biological Treatment and Chemical Analysis of Effluent

In the third and final step of the treatment process at the Valdez Marine Terminal to remove hydrocarbons from oily ballast water, bacteriological action converts the benzene, toluene, ethylbenzene, and xylene (BTEX) to harmless compounds. The process takes place in the Biological Treatment Tanks – large, aerated, open, concrete-lined ponds. The aeration and mixing action in the pond compete with the bacteriological action in removal of hydrocarbons from the effluent. The aeration processes do not convert hydrocarbons in the effluent to harmless compounds; they merely remove pollutants from the ballast water and discharge them into the ambient air. The extent to which BETX is being consumed by bacteria or is being aerated out of the biological treatment process has been a matter of speculation. PWSRCAC hired a contractor, Payne Environmental Consultants, Inc. to make biological and chemical measurements on process liquids to identify the contributions made by bacteriological action and those made by aeration in the removal of hydrocarbons from the effluent discharged from Valdez Marine Terminal. The contractor, assisted by PWSRCAC staff and Alyeska Pipeline Service Company staff, has made field measurements during March 2004 and September 2004 at the Valdez Marine Terminal. PWSRCAC's microbial efficiency studies have been coordinated with Alyeska Pipeline Service Company's BTEX Fate study. Although neither study will be finished until the analyses of samples scheduled to be taken in January 2005 are completed in the first or second quarter of 2005, preliminary findings of both studies appear to be consistent with each other.

Corrosion Abatement

At the time of its original design, the useful life of the VMT was thought to be 30 years and many of the subsystems and components were designed accordingly. The lifetimes of most VMT components are limited by wear out due to mechanical action and corrosion due to

electrolytic currents and the handling of inherently corrosive fluids. In March of 2004, PWSRCAC contracted with Coffman Engineers to identify the extent to which corrosion issues exist at VMT; to monitor efforts to address corrosion issues at the Valdez Marine Terminal; and to verify that procedures are in place to appropriately manage corrosion issues. Coffman Engineers has examined Alyeska Pipeline Service Company's two most recent annual corrosion reports to identify corrosion issues and has followed up by examining Alyeska Pipeline Service Company's corrosion database and with a site visit to the Valdez Marine Terminal in October 2004. A report is in preparation as of this writing.

Consultation on Risk Assessment

In January 2004, Alyeska performed an assessment of risks associated with installation of internal floating roofs in their existing crude oil storage tanks as part of the Strategic Reconfiguration. Alyeska Pipeline Service Company had many concerns pertaining to fire and explosion risks associated with making such a change. Alyeska Pipeline Service Company requested that PWSRCAC provide one of its expert contractors (Loss Control Associates) to participate in the risk assessment. PWSRCAC's contractor traveled from Pennsylvania to Anchorage and actively participated in developing the risk assessment, the results of which were provided to PWSRCAC. The risk assessment identified the additional risks associated with the floating roofs so that they could be appropriately considered, managed, and mitigated as the Strategic Reconfiguration is further developed.

Participation in Fenwal Valve Investigation.

A special, fast-acting system prevents explosions from propagating in the vapor piping between a tanker loading crude oil and Alyeska Pipeline Service Company's vapor control systems. The Fenwal valve prevents propagation of an explosion by closing very quickly whenever an explosion is sensed in the vapor piping. In August 2004, Alyeska Pipeline Service Company discovered that the actuating mechanism of the Fenwal Valve had, in essence, been deactivated by a wiring change. Alyeska invited PWSRCAC and USCG personnel to participate in its investigation of the incident. The wiring change, thought to have inadvertently been retained after performance of an undocumented test procedure and in place for a considerable length of time, was not detectable using the closed circuit testing that had been performed to verify operability of the valve. PWSRCAC recommended that open circuit testing be performed in addition to the closed circuit testing to verify system operability. Alyeska Pipeline Service Company subsequently incorporated open circuit testing into its documented procedures.

(ii) Tanker operations and maintenance

The Maritime Operations Program monitors and reviews port organizations, operations, incidents, and the vessel traffic system.

Prince William Sound Tanker Escort System

The Trans Alaska Pipeline System (TAPS) trade tanker operators are retiring older single hull vessels, as required by OPA 90, and introducing new double hull, fully redundant ships. These new vessels are unique and careful attention has been paid to make certain they participate in both tether and towing exercises. With these ships arriving in the trade, and most regulations for escorting only addressing single hull vessels, PWSRCAC is actively pursuing ways to maintain our current escort system.

PWSRCAC has also worked closely with the USCG, Crowley Marine Services, the Alaska Department of Environmental Conservation and the Response Planning Group to investigate and rectify the line partings that were experienced during tether exercises this past year.

Waterways Management

PWSRCAC is a participating member of the Valdez Marine Safety Committee (VMSC) which has assumed the tasks of implementing risk management measures relating to navigational safety, port operations, and vessel traffic schemes. The committee is led by the Coast Guard and participants include the Alaska Department of Environmental Conservation, the Prince William Sound oil shippers, the Southwest Alaska Pilots' Association, Alyeska/SERVS, and other maritime operators in Prince William Sound.

Potential Places of Refuge

PWSRCAC partnered with the Alaska Department of Environmental Conservation to fund a multi-stakeholder project that, following the Alaska Regional Response Team criteria, seeks to pre-identify potential places of refuge within Prince William Sound. PWSRCAC's contribution to this project included workgroup participation, hosting meetings, and most importantly community outreach. Our efforts at community outreach included, but were not limited to mass email and letter distribution of information, visits to Prince Williams Sound communities, and information published on our website.

(2) Review of oil spill prevention and response plans

Oil spill prevention and response plans for tankers and for facilities like the Valdez Marine Terminal are submitted to the state of Alaska under a five-year review cycle. This year's efforts in PWSRCAC's Oil Spill Prevention and Response Planning Program focused on stakeholder work group processes following the 2003 revision to plans for both the Valdez Marine Terminal (VMT) and the tankers operating in Prince William Sound.

The plans were submitted to the Alaska Department of Environmental Conservation for review, public comment, revision and approval under a year-long public process. Additional work under the program addressed comments to the State of Alaska for its Contingency Plan Review (CPR) process that is revising oil spill response regulations, and the State's Best Available Technology (BAT) work group and workshop processes.

Also, PWSRCAC provided comments to both the state and federal government regarding implementation of 2003 laws passed by the Alaska legislature that weakened the Alaska Coastal Management Program (ACMP). Comments to the federal Office of Coastal Resource Management analyzed the state's changes to the ACMP. Comments to the State on the proposed new ACMP regulations advised the Department of Natural Resources on the draft regulations implementing the state's legislative changes.

Tanker Plan Reviews

PWSRCAC, with a project team of consultants, staff, and volunteers, participates in the Prince William Sound Tanker Plan Work Group process that is reviewing, revising and streamlining the tanker plans. The workgroup includes representatives from state and federal agencies as well as PWSRCAC. This year the work group completed its work on revisions to the wildlife response sections of the plan. The next plan section the work group intends to work

on is training. In early June 2004, staff coordinated with the council's Oil Spill Prevention and Response Committee and the C-Plan Project Team in drafting comments for the council on a tanker plan amendment that proposed to replace Alyeska's *Krystal Sea* landing craft used in the plan as a response vessel for nearshore operations with a new, larger storage barge/Z-drive tug combination.

Valdez Marine Terminal Plan Reviews

This year, efforts on the VMT plan continued in the work group phase with staff participating in the monthly VMT C-Plan Coordination Work Group and other related work group processes. The process includes representatives from state and federal agencies as well as PWSRCAC. Several subject areas have been addressed by the work group process this year, including Source Control/Procedures to Stop a Discharge, Recovery Calculations, and Waste Management.

Alaska Unified Plan and Subarea Plans

The council region also includes three subarea plans, geographically specific response plans for Kodiak Island, Cook Inlet, and Prince William Sound. This year the council has been developing a project to integrate and improve response for a large spill that originates inside Prince William Sound. The project proposes a detailed plan and scenario for a response in the event of a response planning standard size spill in Prince William Sound where spilled oil escapes Prince William Sound and threatens downstream communities. The project promotes the development of this detailed plan as a plan component that can be presented to the Prince William Sound, Cook Inlet and Kodiak Subarea Plan Committees for inclusion in their various subarea plans.

Environmentally Sensitive Areas and Geographic Response Strategies

The council participates in the Alaska Regional Response Team Sensitive Areas Working Group in an effort to ensure that contingency plans incorporate local knowledge about sensitive areas. The council also co-funds and otherwise supports the development of sensitive area protections throughout its region from Prince William Sound to the Copper River Flats to Kodiak. Geographic Response Strategies (GRS) work groups for Prince William Sound and the Seward Zone of the Outer-Kenai Coast have finalized GRS sites for each zone and forwarded them to the Prince William Sound and Cook Inlet Subarea Plans. The Cook Inlet Subarea Contingency Plan has incorporated 51 GRS sites and the Prince William Sound Subarea Contingency Plan update in early 2005 will incorporate the 44 sites developed in Prince William Sound. Drafts of the Prince William Sound and Seward Zone GRS sites can be viewed at: http://www.state.ak.us/dec/spar/perp/grs/pws/home.htm.

In addition, spill reports and documentation from the Windy Bay spill in Unakwik Inlet of Prince William Sound have been converted into GRS format, and the Port Valdez GRS sites from the VMT C-Plan have also converted into GRS format for addition to the Prince William Sound Subarea Contingency Plan and will be added to it at the early 2005 update. Also, seven sites in the Copper River area were selected by the Prince William Sound Work Group for site-specific strategy development. Aerial photography was completed in late June 2004, and site surveys have been scheduled for early May 2005.

ShoreZone Mapping

In June of 2004, PWSRCAC initiated a project to extend the ShoreZone Mapping system into Prince William Sound from the Kodiak, Cook Inlet and Kenai Peninsula areas where it has

already been developed. ShoreZone is a procedure for mapping coastal habitats and has been applied widely to the British Columbia and Washington state coastlines as well as Cook Inlet, Kodiak and the Lower Kenai Peninsula.

The ShoreZone technique involves flying and video-imaging the shoreline at the lowest tides of the year so that the entire intertidal zone is imaged. Biologists and geologists aboard the aircraft provide additional commentary on the video sound tracks during the overflight. Detailed geomorphology, substrate and intertidal biology data are then mapped from the imagery. The project funded the initial flying and video-imaging of western Prince William Sound in the area from Whittier to Chenega. The contractor team caught the low tide series the first week of July traveling from the Cape Puget area to the Whittier area using helicopter support based out of Chenega and Whittier. A summary report, CDs and DVDs of the imagery were provided to PWSRCAC in late September. This information is useful for long-term environmental monitoring, spill-response planning and protection strategies, and for natural resource management.

(3) Monitoring drills and cleanup of actual discharges

PWSRCAC's drill monitoring is done by a combination of staff and an independent drill monitor. Drills, exercises and training events are monitored and a large effort has been made in participating in the planning of these events and being an active part of the performance evaluation.

Over the past three years the number of drills has remained constant at around 22-23 events per year. That includes oil spill drills and exercises and also tug and tanker towing exercises. This number shows an overall increase in recent years from a low of 15 events in 2000.

Each year, one of the shipping companies holds a large scale drill in the *Exxon Valdez* Oil Spill region and PWSRCAC participates in this event. In 2002, BP conducted a large drill of a "day four" scenario of a spill in Prince William Sound (PWS). In 2003, Tesoro held a drill in Nikiski and Kodiak which called for equipment to be moved (simulated) from PWS to the Gulf of Alaska. In 2004 the USCG joined ConocoPhillips in holding a drill in northeast PWS and PWSRCAC was a member of the Joint Development Team for that event.

Following a PWSRCAC recommendation, the Alaska Department of Environmental Conservation held a series of unannounced exercises in 2003 and 2004. PWSRCAC was involved in the planning of these events and the PWSRCAC emergency response team and volunteers acted as evaluators for these very important exercises.

PWSRCAC staff and an independent contractor were active in field verification deployments of Geographic Response Strategies in PWS. These extensive field deployments confirmed oil spill response strategies or led to modifications of strategies to protect highly sensitive areas.

<u>Incident monitoring</u>

PWSRCAC constantly monitors any incidents that could lead to a spill, accident or any other incident at the Valdez Marine Terminal or in the TAPS tanker operations in our region. Staff and the independent contractor respond immediately to any significant event and PWSRCAC is currently updating the Emergency Response Plan to guide the organization during an event.

In April of 2004, immediately prior to a fishing vessel training exercise in Jack Bay, a diesel spill occurred from a tug. PWSRCAC had staff and the independent drill monitor immediately on-scene and was thus able to monitor and provide advice to the responders. PWSRCAC was consulted during the response to this spill and the communities were kept informed.

Training

PWSRCAC recognizes the great importance of training responders, particularly the local fishing vessel crews that would be called on in the event of a spill in our region. PWSRCAC has been activity involved in training sessions both in the classroom and on water for these responders. PWSRCAC is actively involved in reviewing the existing Tanker Contingency Plan and the next section to be reviewed and updated will be the training section of the plan.

(4) Review or coordinate scientific studies with recognized experts

PWSRCAC has established policies and practices to ensure its independent scientific work addresses environmental issues related to the Valdez marine terminal and associated tankers. Further, PWSRCAC's work is coordinated with scientific work done by others for terminal and tanker operators in order to avoid unnecessary duplication.

PWSRCAC's Scientific Advisory Committee – one of four standing technical committees – is a primary resource in this effort. Its members are selected on the basis of scientific expertise. They review proposed research projects and provide assistance and advice to other PWSRCAC committees**,** the PWSRCAC staff, and the board of directors on scientific methodology, data interpretation, and other subjects.

PWSRCAC maintains a database of scientific and technical experts. The database is used to solicit proposals for specific studies and to select professional peer reviewers for project reports. PWSRCAC staff, committee and board members attend major conferences to maintain contact with experts in environmental science and oil-spill prevention and response, and to keep informed about current research.

The Cordova-based Oil Spill Recovery Institute has been an ex-officio member of PWSRCAC since 1997. The Institute is associated with the Prince William Sound Science Center, providing another avenue for coordination and expert oversight of PWSRCAC's scientific work. PWSRCAC regularly attends quarterly and annual meetings of the West Coast States/British Columbia Task Force and reviews scientific studies conducted by the Task Force and the members.

PWSRCAC routinely sends copies of board and committee agendas and background packets to Alyeska, oil shippers and regulators to keep them informed about proposed and ongoing scientific work. The packets include draft copies of status and final reports for review and comment.

PWSRCAC board and committee meetings are open to the public, providing regular opportunities for interested parties to monitor and comment on research projects.

Some of the major projects that PWSRCAC coordinated or reviewed in the past year are summarized here, and described in detail elsewhere in this application.

Long-Term environmental monitoring program (LTEMP)

Monitoring activities for PWSRCAC's LTEMP project are carried out by Payne Environmental Consultants, Inc., and the laboratory work is done at NOAA's Auke Bay

Laboratory in Juneau, Alaska. This region-wide monitoring program has been under way since 1993. It involves the collection of mussel tissue and marine sediments for chemical analysis.

Non-Indigenous Species (NIS)/ Ballast Water Investigation

Since 1996, PWSRCAC has led a multi-stakeholder working group to coordinate investigations into the risk of invasion of Prince William Sound by Aquatic Non-Indigenous Species (NIS). The working group participants include the State of Alaska, the US Fish and Wildlife Service (USF&WS), oil industry representatives, researchers from the University of Alaska and the Smithsonian Environmental Research Center, and other stakeholders. During this past year, this group met and reviewed two significant reports – one on the potential for European Green Crab invasions in Alaska, and the other on ballast water exchange experiments. The working group also provides a forum to exchange NIS program updates and coordinate activities.

This past year, PWSRCAC also played a significant role in hosting the Western Regional Panel on Aquatic Nuisance Species. This panel is comprised of federal, state, Canadian, Mexican, and tribal representatives, and other members based in the Western region of North America. PWSRCAC worked with the panel members to create the agenda, secure speakers, and conduct the meeting that took place in Anchorage.

In addition, the PWSRCAC, in partnership with the USF&WS, continues to sponsor NIS research as carried out by the Smithsonian Environmental Research Center.

(5) Review developments in spill prevention and clean-up technology:

PWSRCAC monitors new technology through literature review, attendance at technical conferences and seminars, and first-hand observation of testing and use of new response tools. PWSRCAC also participates in the funding of physical oceanography and meteorological data collection projects by research institutions.

PWSRCAC supports the production of real-time and archived weather data from Prince William Sound and the Gulf of Alaska to aid mariners, provide data for computer simulation modeling and oil spill trajectory prediction, and to determine how often certain conditions occur.

The council does this through partnership projects that contribute to studies being conducted by the Prince William Sound Science Center and the University of Alaska Fairbanks to collect weather and current data. In 2004, PWSRCAC provided support funding to the University of Alaska Fairbanks for a surface current mapping (CODAR) project in Prince William Sound. The system was installed in early summer 2004, completed the testing phase by mid-summer and is currently collecting data. The data are available on the Internet at http://halibut.ims.uaf.edu:8000/~salmon/CODAR/Data/raw_totals/Prince_William_Sound.

In 2004, PWSRCAC also co-funded Prince William Sound Science Center's revisions to its communications system for the Prince William Sound weather station network in order to change it from a radio-based network to a satellite-based network using the Snowtel system. The equipment has been collected and is in Cordova undergoing upgrades that will provide a more reliable near-real-time data stream to the web.

PWSRCAC staff attended the ADEC sponsored Best Available Technology conference held in Anchorage in 2004 and staff at every opportunity attend demonstrations or testing of new oil spill response equipment.

PWSRCAC staff also attended the 2004 Interspill conference in Norway. This event highlighted new response equipment and methods and focused on the lessons learned from the Prestige oil spill.

PWSRCAC staff attends the annual Arctic and Marine Oilspill Program (AMOP) held by Environment Canada. This is a highly technical conference and often highlights new developments in oil spill response in cold climates.

In 2004, PWSRCAC sponsored several research projects investigating the use of chemical dispersants. (Based on the council's 1998 position statement and recommendations on dispersant use, PWSRCAC remains cautious about the use of this technology in Prince William Sound, calling for their use only after skimming and other mechanical methods that actually remove spilled oil are carefully evaluated and ruled out.) Three reports were prepared by Dr. Merv Fingas of Environment Canada. One report compared the "weather windows" for the various oil spill countermeasures (dispersants, in situ burning, and mechanical recovery). Weather plays an important role in determining when and how to use the countermeasures. Another report prepared by Dr. Fingas reviewed monitoring protocols available for determining dispersant effectiveness. These two reports were presented at the AMOP seminar. The third report looks at the effect of salinity on dispersants and will to be submitted to PWSRCAC by the end of 2004.

Trained staff continued to take ultraviolet radiation (UV) measurements in 2004 as part of an on-going effort to characterize the UV in Prince William Sound. This work is a continuation of our investigation into the photoenhanced toxicity of chemically dispersed oil. Research supported by PWSRCAC in 2003 demonstrated that chemically dispersed oil is more toxic in the presence of UV (known as photoenhanced toxicity or phototoxicity).

In addition, PWSRCAC took an active role in evaluating the use of wave tanks for dispersants research. Staff members and a volunteer were invited to two wave tanks for demonstrations this past year. The most recent wave tank to be developed is in Halifax, Nova Scotia and is operated by the Canadian Department of Fisheries and Oceans and the U.S. EPA. Another trip was taken to the much larger Ohmsett facility in New Jersey operated by the Minerals Management Service.

PWSRCAC has also been participating in the Alaska Regional Response Team's (ARRT) review of the Prince William Sound dispersant use guidelines and research needs assessment.

After considerable review and analysis, the council formally took a position that advised against the use of burning oil spills as a method of clean-up in most cases. Since oil slicks have to be contained with boom in order to be burned, there is no reason not to remove the oil from the water with mechanical recovery methods (skimmers). The exception is oil in broken ice conditions where current skimmer technology is still largely ineffective. More research is needed to understand the effects of burn residues on bottom-dwelling organisms.

(6) Review of port operations, organizations, safety systems and incidents, and recommendations made to promote safer transportation of oil

(i) Review of port operations, organizations, safety systems and incidents

PWSRCAC personnel monitor maritime operations and, in conjunction with the PWSRCAC Port Operations and Vessel Traffic Systems Committee, analyze issues and make recommendations for improving the navigational safety of TAPS tankers and escort vessels. These activities are carried out by routine tracking of vessel traffic; recording delays, incidents, near misses and atypical situations; reviewing proposed rules, regulations, and Coast Guard

guidelines; and maintaining a working relationship with shippers, SERVS, the Southwest Alaska Pilots' Association, Alaska Department of Environmental Conservation, and the U.S. Coast Guard. As described in detail in Section (d)(2), PWSRCAC reviews and comments on state and federal oil spill prevention and response plans, often including recommendations regarding port operations and safety systems.

PWSRCAC regularly interfaces with Marine Safety Office Valdez personnel regarding operation of the vessel traffic system. As a member of the Valdez Marine Safety Committee (VMSC), PWSRCAC staff and volunteers participate in several joint initiatives to fund maintenance and expansion of the weather buoy system, to support collection of additional sea current data to assist mariners, and to enhance the marine firefighting capability in Prince William Sound.

Specific PWSRCAC projects related to these activities are described below.

Fire Protection

PWSRCAC continues to work to improve marine and terminal fire fighting capabilities. Staff has begun planning for the upcoming 2005 firefighting symposium. The next symposium will build on information and training provided in the 2003 symposium and will focus primarily on drills and tactics. The 2003 symposium was held in October of that year. PWSRCAC, in cooperation with many industry and agency representatives, organized the event, which provided training in marine firefighting for land-based firefighters. Approximately 70 firefighters participated in the three-day event, which was held in Valdez.

Ice Detection Technology Review

The disintegration and drastic retreat of Columbia Glacier since 1980 have significantly increased the potential for an oil spill in Prince William Sound caused by a tanker hitting an iceberg. This glacier, 16 miles west of the southbound shipping lanes in Valdez Arm, is the largest glacier in the Sound. It calves thousands of icebergs into Columbia Bay each year. Some of these icebergs drift out into the shipping lanes and threaten vessels.

The Exxon Valdez was maneuvering to avoid icebergs when it went aground in 1989, and the unladen tanker Overseas Ohio suffered over $1 million in damage when it struck an iceberg in 1994.

In response, the council initiated a multi-stakeholder work group to develop a radar system for detecting icebergs in the tanker lanes. It began operating on Reef Island in 2002 and has since operated well with minimum maintenance and down time.

Human and Organizational Factors

PWSRCAC continues to monitor the oil shipping companies' safety management plans and compliance with federal regulations and international standards. PWSRCAC actively supports the Coast Guard's Prevention Through People Program and other efforts to reduce the risk of marine casualties caused by human error.

Prince William Sound Area Maritime Security Committee

PWSRAC, as appointed by the USCG, holds two seats on the PWSAMSC. PWSRCAC regularly participates in these meetings and sits on subcommittees as well.

International Relations

PWSRCAC continues to host delegates from many international communities, including, but not limited to, representatives from Denmark, Lithuania, Finland, the Russian Far East and

Estonia. We find these delegations appreciate the time we spend with them teaching them the importance of citizen oversight and we often learn much from our visitors.

(ii) Recommendations to promote safer oil transportation

PWSRCAC regularly advises regulatory agencies, shipping companies and Alyeska Pipeline Service Co. on measures that could be taken to improve the safety of oil transportation. A list of some of our advisory letters in this recertification period follows. Copies of the letters are available from the council upon request.

Alaska Liquefied Natural Gas Project

In a letter dated 2/16/2004, PWSRCAC listed various research and information PWSRCAC has that may be of assistance to the Alaska Liquefied Natural Gas development authority.

Aquatic Nuisance Species

On 7/8/2004, PWSRCAC sent a letter to Senator Lisa Murkowski regarding PWSRCAC's involvement in researching the issue of non-indigenous species in ballast water and the work our organization is conducting to find ways to prevent invasions of aquatic nuisance species in Alaskan Waters. We also invited her participation in the Western Regional Panel meeting to be held in Anchorage.

Best Available Technology Review

In a letter dated 4/14/2004 PWSRCAC commended the Alaska Department of Environmental Conservation on its efforts to meet its regulatory requirements by bringing this project through to fruition and offered the department a number of suggestions to enhance the upcoming Best Available Technology Conference.

Comments on the National Environmental Policy Act

In a letter dated 7/13/2004, PWSRCAC responded to a Department of Homeland Security request for public comment on the National Environmental Policy Act (NEPA), as published in the US Federal Register on 6/14/2004.

Comments to the Alaska Regional Response Team Regarding Dispersants

In a letter dated 7/15/2004, PWSRCAC commented to the Alaska Regional Response Team co-chairs and ADEC on two very troubling aspects to the cold water testing of Corexit 9527 at Ohmsett. As a result of this information, PWSRCAC does not believe that the Ohmsett testing accurately depicts field environmental conditions nor represents good science.

Contingency Plan Streamlining Review

In a letter dated 8/18/2004, PWSRCAC thanked the Alaska Department of Environmental Conservation for the opportunity to participate in the Contingency Plan Review workgroup, and appointed two PWSRCAC representatives to that committee.

Coping with Technological Disasters Guidebook

In October 2004, in response to the Dalco Passage Spill in Puget Sound, PWSRCAC forwarded the *Coping with Technological Disasters Guidebook* to an organization called the People of Puget Sound. PWSRCAC developed this guidebook to share with other communities and organizations when affected by technological disasters. In addition, the council sent the guidebook to the Marine Advisory Program in Unalaska after the wreck of the freighter *Selendang Ayu* in December 2004.

Environmental Monitoring

In a 4/14/2004 letter, PWSRCAC expressed strong support to the Exxon Valdez Oil Spill Trustees Council Gulf of Alaska Environmental Monitoring Program for the Prince William Sound ShoreZone Mapping grant application made by Carl Schoch and John Harper through the Prince William Sound Science Center.

Exxon Valdez Oil Spill Trustee Council Public Advisory Committee Nominations

In a letter dated 7/26/2004, PWSRCAC nominated Lisa Ka'aihue, PWSRCAC Environmental Monitoring Program Manager, to serve on the Exxon Valdez Oil Spill Trustee Council's Public Advisory Committee under the category of regional monitoring. (She was subsequently appointed to the panel.)

Letter of Support for Navigational Improvements

On 3/17/2004, PWSRCAC gave support to the Tatitlek Village IRA Council for the Tatitlek Navigational Improvements and Small Boat Harbor projects.

Letter of Support for Oil Spill Response Funding

In a letter dated 3/17/2004 to Senators Lisa Murkowski and Ted Stevens, PWSRCAC gave support to a funding request made to the US Senate on 2/28/2004 by Seldovia Oil Spill Response.

Letter of Support to enhance the Prince William Sound and Alaska Ocean Observing System

In a letter dated 10/18/2004, PWSRCAC sent a letter to the Prince William Sound Oil Spill Recovery Institute (OSRI) in support of an integrated system solutions for applications of national priority in coastal management, a proposal the OSRI submitted to NASA. If incorporated, it would make real-time forecasts that would enhance coastal management throughout our region.

Maritime Operations

On 8/26/2004, PWSRCAC sent a letter to Greg Jones, Senior Vice President of APSC, regarding the tanker loading and off-loading operations at the Valdez Marine Terminal. The letter states PWSRCAC's understanding that all tankers were being boomed before the loading arms were attached, and that we were disappointed to learn that this has not been the practice for quite some time. PWSRCAC requested more information, and requested that tankers be boomed until this issue is resolved.

National Invasive Species Council

On 1/9/2004, PWSRCAC nominated Scott Smith to the Invasive Species Advisory Committee for the upcoming term.

National Preparedness for Response Exercise Program

On 11/15/2004, PWSRCAC commented to the US Department of Transportation on the National Preparedness for Response Exercise Program (NPREP) triennial exercise schedule for 2005, 2006 and 2007 and the NPREP guidelines.

Nomination for the Coastal America Partnership Award

On 3/24/2004 and 4/7/2004, PWSRCAC sent a letter to Coastal America nominating the PWSRCAC Scientific Advisory Committee for the Coastal America Partnership Award.

Nomination of the TAPS Shippers for the 2004 Legacy Award

On 4/15/2004, PWSRCAC nominated the Trans Alaska Pipeline System Shippers for the Pacific States/British Columbia Oil Spill Task Force 2004 Legacy Award for the safe transportation of oil throughout Prince William Sound.

NPDES Permit Renewal

In a letter dated 6/10/2004, PWSRCAC questioned the ADEC issuance of its 401 Certification of Alyeska's National Pollutant Discharge Elimination System (NPDES) permit, as the US EPA had yet to issue the final permit. PWSRCAC explained that ADEC referenced the US EPA's permit in its certification but that the permit had yet to be released to the public and was unavailable for review. Subsequently, on 6/28/2004, after the draft permit was released by the US EPA on 6/14/2004, PWSRCAC requested an informal review of the permit, because two of the comments submitted by PWSRCAC during the public comment period did not receive adequate consideration by ADEC or the US EPA. PWSRCAC stated that these comments represent very important citizen stakeholder issues that warrant reconsideration by both parties. Finally, on 11/23/2004, PWSRCAC submitted substantive comments on the Final NPDES permit. Our comments dealt primarily with the need to best monitor the effluent from the Ballast Water Treatment Facility at the Valdez Marine Terminal.

Oil Spill Response Operations

In a letter dated 3/31/2004, PWSRCAC gave support to the US Department of the Interior and the Minerals Management Service for further development of an All-Purpose Oil Spill Response Vessel (AP OSRV). PWSRCAC also encouraged development of the AP OSRV in a letter dated 4/12/2004 to the BP Charter Fund Administrators for the Beaufort and Chukchi Seas. The BP Charter Fund Administrators consist of representatives from the Alaska Department of Environmental Conservation and BP Exploration.

Potential Places of Refuge

On 10/6/2004, PWSRCAC sent a letter to landowners in Prince William Sound requesting local knowledge for potential places of refuge throughout our region. This letter was sent to over 70 landowners for their input. On 11/22/2004, PWSRCAC sent an additional letter to the Prince William Sound landowners who responded, thanking them for giving public comment on the potential places of refute project.

Preparedness Monitoring

In a letter dated 3/17/2004, PWSRCAC forwarded its 2003 Annual Drill Monitoring Report, as approved by the Board of Directors, to Ed Morgan, SERVS Manager.

Public Information and Outreach

On 7/13/2004, PWSRCAC sent a letter to land owners in Jack Bay, Prince William Sound, informing them of the 4/28/2004 50-gallon diesel spill in Jack Bay, the upcoming US Coast Guard National Preparedness for Response Exercise Program and the Potential Places of Refuge Project.

Request for Information from Alyeska Pipeline

On 9/22/2004, PWSRCAC requested the most current data regarding the properties of Alaska North Slope crude oil as it comes out at the Valdez Marine Terminal so that PWSRCAC may successfully evaluate and implement environmental monitoring projects and chemical dispersants related projects.

Response Gap

In a 1/16/2004 letter to the Prince William Sound Response Planning Group, PWSRCAC asked why the towing exercise workgroup had yet to be convened as requested in a May 2003 letter. PWSRCAC charged the group with a goal on conducting exercises in conditions close to, or at closure conditions. PWSRCAC had not yet witnessed any tanker exercise in less than calm conditions to test the response gap.

SERVS Response Operations

In a letter dated 10/20/2004, PWSRCAC commented to Ed Morgan, SERVS Manager, about the retention rate of the response staff at SERVS, an issue that has long been a source of concern to PWSRCAC. In this letter, PWSRCAC urges SERVS to make a greater effort in retaining trained and experienced staff.

State Contingency Plan Review For The PWS Tanker Plan

On 6/8/2004, PWSRCAC commented on the Prince William Sound Tanker Oil Spill Prevention and Contingency Plan proposed *Krystal Sea* amendment.

State Contingency Plan Reviews for the Valdez Marine Terminal

In a letter dated 3/23/2004, PWSRCAC commented to the Alaska Department of Environmental Conservation on the Valdez Marine Terminal Contingency Plan Amendment regarding source control. PWSRCAC supported the proposed amendment, as it improved the procedures to rapidly stop the discharge in the event of an oil spill and incorporated plan scenario-specific action, which clearly demonstrate the strategies and procedures adopted to stop the discharge at its source and prevent further spread.

Tanker Escort System

On 7/23/2004, in response to a recent tow-line parting on a Prevention and Response Tug, PWSRCAC commented to the Prince William Sound Response Planning Group and Crowley Marine on the operational capabilities of these tugs and Crowley's overall operational management.

TAPS DR&R Issues

In a letter dated 6/28/2004, PWSRCAC responded to the Regulatory Commission of Alaska's request for public comment on the need for regulations governing the

dismantlement, removal and restoration for oil and gas pipelines and facilities, including the Valdez Marine Terminal.

Valdez Air Quality NESHAP OLD

In a letter dated 1/8/2004, PWSRCAC thanked the US EPA for a December 19, 2003, meeting, and reiterated comments made at the meeting regarding the significant quantity of Hazardous Air Pollutants being emitted from the Ballast Water Treatment Facility at the Valdez Marine Terminal. The final National Emission Standard for Hazardous Air Pollutants – Organic Liquid Distribution (NESHAP OLD) rule was published by the US EPA in the *Federal Register* on 2/3/2004. Due to the inclusion of the wastewater exemption, specifically citing ballast water as a wastewater, PWSRCAC filed a Petition for Reconsideration with the US EPA on 3/24/2004. PWSRCAC staff and contractors regularly met with US EPA representatives both in person and telephonically to discuss the final rule and our Petition for Reconsideration.

Valdez Air Quality Title V Air Quality Permit to Operate the Valdez Marine Terminal

On 1/29/2004, in response to the Alaska Department of Environmental Conservation's request for public comment, PWSRCAC commented on Alyeska's request for an adjudicatory hearing on the Title V air quality construction permit. PWSRCAC commended ADEC for the high level of professionalism regarding the development of the permit and encouraged the Department to reaffirm its original position on the issue raised by Alyeska in the hearing request. In a letter dated 2/3/2004 PWSRCAC again responded to the Department on the request for public comment on Alyeska's notice for a request for an adjudicatory hearing on the Title V air quality permit. In its request, Alyeska raised several areas of concern in the appeal, and PWSRCAC stated that we are unable to support the request for a stay of enforcement for four important permit conditions as they had already been thoroughly addressed by ADEC during the permit development process. The letter states that it is not clear how there could be significant value in granting an adjudicatory hearing to further negotiate a permit that has been under negotiation with ADEC since 1997. In a letter dated 5/26/2004, PWSRCAC requested that we be advised in a timely fashion of the status, actions and decisions made by ADEC on the two air quality permits that are pending adjudicatory hearings. PWSRCAC specifically requested that we receive a copy of all information filed to date since the hearing request was granted. In a letter dated 11/8/2004, PWSRCAC offered its final comments to the Alaska Department of Environmental Conservation on Revision 1 to Alyeska's Title V air quality control operating permit.

Valdez Marine Terminal Oil Spill Response Training

On 8/9/2004, PWSRCAC sent a letter thanking the Alaska Department of Environmental Conservation for following through with the commitment to increase oil spill prevention and response audits at the Valdez Marine Terminal.

Valdez Marine Terminal Waste Management Amendment

On 10/29/2004, PWSRCAC forwarded its recommendations for the Valdez Marine Terminal contingency plan waste management plan amendment to Alyeska/SERVS.

Valdez Marne Terminal Operations

On 2/13/2004, in response to a Federal Register Water Docket published by the US Environmental Protection Agency, PWSRCAC commented on the preliminary effluent guidelines program plan for 2004 and 2004.

VMT Strategic Reconfiguration

In a letter dated 9/28/2004, PWSRCAC forwarded an Alyeska report titled *Strategic Reconfiguration of the Valdez Marine Terminal Environmental Report, July 2004* to the US EPA. This report described the major operational and engineering changes proposed for the Valdez Marine Terminal over the next several years. This report specifically excluded voluntary emission control at the Ballast Water Treatment Facility, leading PWSRCAC to believe that the operators and owners would not take voluntary steps to control air toxic emissions.

VMT Strategic Reconfiguration

In a letter and report dated October 5, 2004, the Strategic Reconfiguration Workgroup, comprised of members of the PWSRCAC Board and staff, the US Coast Guard, and the City of Valdez, submitted to the Joint Pipeline Office and Bureau of Land Management the Strategic Reconfiguration Working Group's preliminary draft comments on Alyeska's strategic reconfiguration of the Valdez Marine Terminal Environmental Report dated August 2004.

Emergency Telecommunications

PWSRCAC has formed a multi-stakeholder group, along with representatives from industry, state and federal governments, and communications carriers, to review the status of telecommunications in Prince William Sound for use in the event of an emergency. The workgroup, with the expertise of a contractor hired by PWSRCAC will look at all forms of communications (radio, telephone, cellular, and satellite, for example) currently in place. We will review their strengths and shortcomings and look for ways to correct deficiencies. The ability for organizations to communicate both internally and externally is vitally important in the event of an emergency.

(7) Implementation of environmental monitoring strategy

PWSRCAC conducts its own environmental monitoring in Port Valdez, Prince William Sound and the Gulf of Alaska, by taking water and sediment samples and by measuring chemical levels in the tissues of native mussels. In addition, PWSRCAC reviews and comments on Alyeska Pipeline Service Company's environmental monitoring program, which is intended to measure and mitigate environmental impacts resulting from the operation of the Valdez Marine Terminal.

Alyeska Pipeline Service Company reports effluent discharges permitted under its National Pollutant Discharge Elimination System (NPDES) Permit AK-002324-8 to regulators from EPA's Region X in Seattle, WA. Copies of these monthly Discharge Monitoring Reports are also provided to the Alaska Department of Environmental Conservation and PWSRCAC. PWSRCAC staff reviews these reports when received and analyzes the reported data for adverse environmental trends. PWSRCAC continues to monitor a trend discovered in 2002 wherein the oily water throughput at the Ballast Water Treatment Facility exhibited an expected decline with

time; however, over the same period of time, total oil and grease in the effluent appears to be exhibiting a counterintuitive but statistically valid increasing trend.

PWSRCAC also reviews environmental monitoring work conducted in the region by other organizations, such as the Prince William Sound Science Center, and the Exxon Valdez Trustee Council sponsored research.

(8) Environmental projects undertaken

Long Term Environmental Monitoring Project

Baseline data are collected on hydrocarbon concentrations at specific sites in Prince William Sound and the Gulf of Alaska. Details are provided below, in Section (d)(9).

Contaminant Pathways

See below.

Copepod Testing

See below.

UV Monitoring

See below.

Non-Indigenous Species

See below.

(9) Environmental conditions and locations monitored

Long-term Environmental Monitoring Project (LTEMP)

Under this program, now in its eleventh year, ten sites in Prince William Sound and the Gulf of Alaska are monitored for hydrocarbons in the water, sediment and mussels. The basic sampling is consistent with NOAA's National Status and Trends Mussel Watch program. Samples are collected during late winter (March), and during the summer months (July or August), to determine the existing hydrocarbon concentrations and characteristics. An additional sampling effort takes place in the fall in Port Valdez, as the Port is home to the Alyeska Marine Terminal and the Ballast Water Treatment Plant. The data provide a benchmark for assessing the impacts of oil transportation and future oil spills on the ecosystem of the Exxon Valdez oil spill region. Results are presented in annual reports.

The monitoring is conducted by Payne Environmental Consultants, Inc. The laboratory work is conducted by NOAA's Auke Bay Laboratory in Juneau, Alaska.

Contaminant Pathways

In partnership with the Prince William Sound Science Center, we are supporting a study that investigates potential contaminant pathways in subarctic estuarine habitats, as found in the Copper River Delta. This study will help us to understand the potential for hydrocarbon pollution to be transferred through the food web. The Copper River Delta was chosen as the study site because of its rich ecological and economic resources and its vulnerability to oils spills. The report will be submitted in early 2005.

Copepod Testing

The Trans Alaska Pipeline System (TAPS) introduces Alaska North Slope (ANS) crude oil into Port Valdez through the Ballast Water Treatment Facility, shipboard ballast water escapes and oil spills. Measuring the TAPS hydrocarbon pollution in the marine ecosystem is one of PWSRCAC's projects. One of the key organisms in the pelagic food web is *Neocalanus plumchrus*. These lipid-rich copepods can concentrate dissolved ANS crude hydrocarbons through equilibrium portioning. PWSRCAC contracted with NOAA's Auke Bay Laboratory to measure and fingerprint hydrocarbons in *Neocalanus plumchrus* from Port Valdez and nearby Prince William Sound this past year. The level and type of crude oil found in *Neocalanus plumchrus* will be compared to ANS crude oil and presented in a report in early 2005.

UV Monitoring

Trained staff continued to take ultraviolet radiation (UV) measurements in 2004 as part of an on-going effort to characterize the UV in Prince William Sound. This work is a continuation of our investigation into the photoenhanced toxicity of chemically dispersed oil. Research supported by PWSRCAC in 2003 demonstrated that chemically dispersed oil is more toxic in the presence of UV (known as photoenhanced toxicity or phototoxicity). Measurements are taken seasonally at several monitoring sites in Prince William Sound.

Non-Indigenous Species/Ballast Water Investigation

Many major ports, including the Great Lakes and San Francisco Bay, have been invaded by aquatic species not indigenous to the area. The so-called "non-indigenous species" can prey on or compete with native species and cause severe ecological and economic damage. A common mode of transport of these invading species is the ballast water carried in tankers and other large ships from one waterway to another. There is concern that the millions of tons of ballast water carried in oil tankers to Valdez could result in similar problems in Prince William Sound. Indeed, the ports from which Valdez-bound tankers take on their ballast water are invaded with non-indigenous species. The European Green Crab, one of the most feared invaders, has rapidly spread from its introduction in California to as far north as British Columbia and is expected to eventually reach Alaskan waters.

Earlier work sponsored by PWSRCAC, the U.S. Fish and Wildlife Service, Alaska SeaGrant, and Alyeska showed that non-indigenous species were indeed arriving in ballast water. The previous research was conducted by the Smithsonian Environmental Research Center (SERC), leaders in the investigation of biological invasions.

During this past year, PWSRCAC along with the U.S. Fish and Wildlife Service continued to support research by SERC. Two reports were prepared in 2004 by SERC. One report investigates the potential for the European Green Crab to invade Alaska waters. This report demonstrates that the Green Crab can easily live in many regions of Alaska. The other report details the results of experimental ballast water exchange experiments, and concludes that ballast water exchange is an effective way to diminish the problem of harmful NIS arriving in Alaska waters. SERC has been investigating ballast water exchange for six years with the cooperation and financial support of not only the PWSRCAC, but also National Sea Grant, the U. S. Fish and Wildlife Service, the American Petroleum Institute, Great Lakes Protection Fund, and the management and staff of the shipping companies SeaRiver Maritime and Alaska Tanker Company.

The SERC researchers continued their investigation of ballast water exchange this past summer through experimentation on board the Alaska Tanker Company's *Kenai*. The samples taken from this work are still being analyzed.

A working group sponsored by PWSRCAC and representing oil shippers, regulators and scientific and environmental interests has provided oversight of this project since its inception in 1996.

In addition to this study, PWSRCAC participates on the Aquatic Nuisance Species Task Force and holds a seat on the national Invasive Species Advisory Committee.

During 2004, PWSRCAC added an aquatic nuisance species section to its web site. Besides basic information on the threat posed by aquatic nuisance species to Prince William Sound, the section also contains links to current state and federal laws and regulations. This section contains a searchable database populated with articles and references on known species in our region, as well as potential threats and ballast water treatment technology information.

(10) Environmental impacts assessed

Many projects described in other sections of this report assess environmental impacts. Another that does so is described below.

Port Valdez Sediment Coring Project

PWSRCAC is currently involved in a project to determine the long-term input of hydrocarbons into Port Valdez by the operation of the Valdez Marine Terminal. This project will assess the trend in hydrocarbons accumulating in the sediment column over the operational life of the terminal to date.

(11) Scientific experts, universities and scientific institutions consulted

Copepod Testing

PWSRCAC contracted with the National Oceanic and Atmospheric Administration-Alaska Fisheries Science Center Auke Bay Laboratory in Juneau, Alaska under the supervision of Jeffrey Short, Ph.D. to measure and fingerprint hydrocarbons in *Neocalanus plumchrus* from Port Valdez and nearby Prince William Sound.

Corrosion Abatement

PWSRCAC hired Rodney Evans, P.E. and Dan Stears of Coffman Engineers in Anchorage, Alaska to monitor Alyeska's efforts to address corrosion issues at the Valdez Marine Terminal and to identify any outstanding corrosion issues.

Dispersant Research

PWSRCAC retained Merv Fingas, Ph.D. of Environmental Technology Center, Environment Canada for various scientific research studies associated with cold water dispersant application and effectiveness. Jim Payne, Ph.D. of Payne Environmental Consultants, Inc. was retained to perform a technical evaluation of dispersants effectiveness testing performed at the Ohmsett facility in New Jersey.

Fire Protection Systems

PWSRCAC contracted with Bud Slye of Loss Control Associates and Tony Semenza of Emergency Response Specialists to review fire protection assets at the Valdez Marine Terminal and provide recommendations for improvements. PWSRCAC also organized a Marine Firefighting Symposium and contracted with a team of experts to provide instruction based on the Marine Firefighting for Land-Based Firefighters manual produced by International Fire Service Training Association. The validation committee for this manual included chair John Lewis and committee members Ron Raschio and Captain Jeff Johnson all of whom were retained by PWSRCAC as trainers for the symposium. Other trainers included Captain John Taylor with the Southwest Alaska Pilots Association and Luke Carpenter.

Intertidal Habitat Contaminant Sensitivities and Pathways

PWSRCAC is a co-sponsor with the Prince William Sound Science Center of a project to characterize the energy and potential contaminant pathways in subarctic estuarine habitats of the Copper River Delta, Alaska. Principal Investigators are Mary Anne Bishop, Ph.D. of the Science Center and Sean P. Powers, Ph.D. of the University of South Alabama and Dauphin Island Sea Laboratory.

Long-Term Environmental Monitoring Program

This program is conducted for PWSRCAC by Payne Environmental Consultants, Inc., of Encinitas, California and performed by James R. Payne, Ph.D. and William Driskell. The laboratory analyses of samples collected in this program are performed by the National Oceanic and Atmospheric Administration - Alaska Fisheries Science Center Auke Bay Laboratory in Juneau, Alaska under the supervision of Jeffrey Short, Ph.D. The Exxon Valdez Oil Spill Trustees Council is a co-sponsor of this program.

Non-Indigenous Species Introductions Via Ballast Water

The team of experts sponsored by PWSRCAC to study the risk of non-indigenous species introduction includes Anson H. "Tuck" Hines, Ph.D., a marine ecologist and assistant director at the Smithsonian Environmental Research Center in Maryland, and Gregory M. Ruiz and Catherine deRivera also of the Smithsonian Center. The U.S. Fish & Wildlife Service is a co-sponsor of this program. In addition, Susan Harvey of Environmental Solutions was hired to develop a website and database of information relating to non-indigenous species arriving in Valdez by ballast water.

Oil Spill Prevention and Response

PWSRCAC retained spill prevention and response expert Tim Jones to monitor the industry's spill preparedness activities, including on-water spill drills. A team of consultants was retained for the formal review of contingency plans including Tim Robertson of Nuka Research in Seldovia, Alaska; Susan Harvey of Environmental Solutions in Eagle River, Alaska; Elise DeCola of Nuka Research in Waldorf, Maryland; and Eric Gundlach, Ph.D. of E-Tech in Acton, Massachusetts.

Reference Oils

PWSRCAC contracted with Mark Savoie of Kinnetic Laboratories on this project. Laboratory analyses are being conducted with the Texas A&M University Geochemical and Environmental Research Group.

Sediment Coring

PWSRCAC contracted with Patrick Kinney, Ph.D., Mark Savoie and Janet Savoie of Kinnetic Laboratories in Anchorage, Alaska to collect sediment cores in PWS and conduct sediment radio-isotope and chemical analysis of the samples. This work is being performed in association with John Trefry, Ph.D. and James Brooks, Ph.D. of the Florida Institute of Technology and TDI-Brooks International, Inc.

ShoreZone Mapping

PWSRCAC contracted with John R. Harper, P.hD., Neil Borecky, Rachel Speller, Mary Morris and Sheri Ward of Coastal and Ocean Resources, Inc. on this project.

Strategic Reconfiguration of the Valdez Marine Terminal

PWSRCAC contracted with Susan Harvey of Environmental Solutions for research and the preparation of technical engineering comments and recommendations for Alyeska's TAPS-wide exercise to reconfigure its management, business and operational practices at the Valdez Marine Terminal.

Surface Current Mappers

PWSRCAC is a co-sponsor with the University of Alaska Fairbanks, School of Fisheries and Ocean Sciences, Institute of Marine Science on their Sea-Air-Land Monitoring and Observing Network (SALMON) project utilizing Coastal Ocean Dynamic Applications Radar (CODAR) to measure surface current speeds and directions in Prince William Sound. The Principal Investigator for this project is Dave L. Musgrave, Ph.D. of the University of Alaska.

Trans-Alaska Pipeline System (TAPS) Dismantling, Removal and Restoration (DR&R) Fund and Profits Study

PWSRCAC's consultant for economic and environmental issues associated with petroleum development is Richard A. Fineberg of Research Associates.

Valdez Marine Terminal Emissions Control

PWSRCAC retained air quality experts Susan Harvey of Environmental Solutions and Yoram Cohen, Ph.D. of the University of California Berkeley to assist with estimating total emissions from the Valdez Marine Terminal. The primary focus was emissions from the Ballast Water Treatment Facility (BWTF), and efforts to control emissions under EPA's National Emission Standards for Hazardous Air Pollutants ruling for organic liquids distribution. PWSRCAC contracted with Jim Payne, Ph.D. and Bill Driskell of Payne Environmental Consultants, Inc. to conduct research on microbial efficiency of the BWTF biological treatment tanks as part of this effort.

Wind Data

PWSRCAC co-sponsored installation of a weather station network with the Prince William Sound Oil Spill Recovery Institute. Michael Lily of GW Scientific, LLC was the lead contractor for this project.

(e) Abstracts of ongoing reports and studies related to minimizing impacts of operations of terminal facilities and crude oil tankers.

Drill Monitoring 2003 Annual Report

PWSRCAC's drill monitoring contractor is Tim Jones, who observes and reports on oil spill response drills, exercises and training, as well as actual incidents and tug trials. The 2003 Annual Report includes some 30 exercises, incidents and issues in calendar year 2003. Following is a list of reports compiled so far for calendar year 2004.

Date	Event
1/20/2004	Tether Exercise involving the *S/R Columbia Bay*, the *Alert* and the *Nanuq*
1/21/2004	Tether Exercise involving the *Polar Alaska*, the *Alert* and the *Nanuq*
1/21/2004	Tow Exercise involving the *Polar Alaska*, the *Alert* and the *Nanuq*
1/23/2004	*Marine Columbia/Attentive* Tether Exercise
1/24/2004	*Overseas Washington/Aware* Tether Exercise
2/6/2004	Heavy Weather Tow Exercise involving the *Overseas Washington*, the *Aware* and the *Nanuq*
2/11/2004	Nearshore Free Oil Drill
2/27/2004	Whittier Nearshore Free Oil Exercise
3/11/2004	Dry Decontamination Units
3/26/2004	450-1 Transrec Drill
4/28/2004	Tug *Pathfinder* Diesel Spill in Jack Bay, Prince William Sound
4/29/2004	Initial Response Incident Command Training
5/10/2004	Annual Fishing Vessel Training, 4/26/2004 through 5/5/2004 in Prince William Sound
5/11/2004	Winter 2003-2004 Ship Assist Exercises
5/24/2004	Cordova Community Response Center Inspection Drill
6/24/2004	*Aware* Line Parting
7/6/2004	*Alert* Line Rewinding
8/4/2004	On-Water Exercise in Conjunction with the ConocoPhillips NPREP Area Exercise
8/24/2004	Geographic Response Strategies (GRS) Deployments of Aug. 16-20
9/22/2004	Nearshore Response Drill
9/29/2004	VMT Settlement Ponds Drill
10/14/2004	VMT Scenarios 4 – Valdez Duck Flats Drill

Methodological Problems in MMS Sponsored Col Water Dispersant Tests at Ohmsett (Summary)

and

Heated Oil and Under-Reported Dispersant Volumes in MAR MMS/Exxon Cold Water Dispersant Tests at Ohmsett

Two reports, dated July 14, 2004, detailing PWSRCAC's concerns about the methodology used in cold-water dispersant effectiveness tests at the OHMSETT facility in 2002 and 2003.

The concerns included questions about the oil having been heated before application to the water in the OHMSETT tank, and about possible underreporting of dispersant volumes used in the tests.

Projecting Range Expansion of Invasive European Green Crabs (Carcinus Maenas) to Alaska – Temperature and Salinity Tolerance of Larvae

The European Green Crab (carcinus maenas) is a global invader, successfully colonizing many world regions and having significant ecological and economic impacts. The Green Crab colonized western North America in the late 1980s, spreading primarily northward from the initial establishment in San Francisco Bay to several other bays in northern California, Oregon, and Washington. Initial analysis, based largely upon temperature tolerance of postlarval crabs, suggests Green Crabs will continue to spread and become established throughout much of Alaska. However, establishment of self-sustaining populations in Alaska may be restricted by environmental conditions for reproduction and larval development, instead of the broad tolerances of post larval crabs. Using laboratory experiments, we tested conditions required for successful development of Green Crab larvae. We collected ovigerous Green Crabs from California and Maine, and cultured larval stages under various temperature and salinity conditions, measuring conditions necessary for survival and the length of time required for successful development (i.e., metamorphosis to post larval crab stage). Our laboratory experiments indicate poor larval survivorship and development at temperatures below 10 degrees Celsius and salinities below 20 ppt. Based upon temperature-specific development rates, several sites within Prince William Sound and elsewhere in Alaska appear warm enough to support self-sustaining Green Crab populations, even though larval tolerances are more restrictive than those for adult crabs. Coupled with northward natural dispersal and ship-mediated transfer in ballast water, our data indicate Alaska is at risk to invasion by Green Crabs. The extent to which biotic interactions (e.g., competition, predation, etc.) may affect colonization success and population sizes remain unresolved.

Review of Oil Spill Responses on Moderately Sized Spills in U.S. Waters from 1993-2000

PWSRCAC posed four research questions comparing the efficacy of dispersant use and mechanical response for nearshore oil spills in U.S. waters. The first was to conduct a review of nearshore oil spill responses on moderately sized oil spills (500 to 4,000 barrels) in the United States since 1993. Second, the review categorizes responses by type (mechanical, dispersants, in situ burning, or a combination of the response on any one spill). Thirdly, the review includes the best estimate of efficiency for each of the responses used on each specific spill. Finally, the review also notes the offshore responses in the United States since 1993, including a characterization of the response options, but not the detailed efficacy analysis.

Strategic Reconfiguration Working Group (SRWG) Preliminary Draft Comments on the Alyeska Pipeline Service Company Strategic Reconfiguration of the Valdez Marine Terminal Environmental Report

In August 2004, Alyeska Pipeline Service Company (APSC or Alyeska) submitted an Environmental Report entitled: *Strategic Reconfiguration 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).

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 hired a contractor to complete the EA, 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 issued the Environmental Assessment with a proposed finding of no significant impact on Dec. 1, 2004, for a 30-day public review and comment period. After the NEPA process is completed, BLM will review the engineering designs and will issue notices to proceed, as appropriate, for the approved design changes.

Trans-Alaska Pipeline System Dismantling, Removal and Restoration (DR&R) – Background Report and Recommendations

Research for this report began with two principal purposes: (1) to provide the Prince William Sound Regional Citizens' Advisory Council Board of Directors with background information regarding the provisions for dismantling and removal of the Trans-Alaska Pipeline System (TAPS) facilities and restoration of the land utilized by pipeline facilities (DR&R); and (2) to identify problems relating to the TAPS DR&R transaction that might prevent the accomplishment of the purpose for which DR&R funds have been collected.

Section I provides a brief introduction to the history and regulatory context of DR&R.

Section II considers the DR&R requirement on TAPS. This section summarizes the amounts collected, discusses the fact that there is no identifiable fund for TAPS DR&R collections and the difficulties of tracing TAPS DR&R funds through published reports.

Section III considers the economic model on which the tariff settlement DR&R collection schedule was based – a flawed model with multi-billion-dollar consequences. Analysis of the settlement model is presented in the exhibits attached to this report. DR&R collections were levied at a rate that was supposed to generate the amount necessary to accomplish DR&R when adjusted for earnings, inflation and taxes, and no more. However, as indicated in Exhibit 7, past tariff collections of more than $1.5 billion for future DR&R activities apparently exceeded the amounts required by significant sums. In other words, DR&R was over-collected through the TAPS tariff.

Section IV summarizes problems relating to implementation of the DR&R provision that include transfers of TAPS ownership, the uncertain trigger for DR&R expenditures and jurisdictional issues.

Section V discusses public implications of the DR&R transaction for crude oil pipeline. In effect, the TAPS experience serves as a case study for the general proposition that the arrangements for collecting funds for DR&R through pipeline tariffs and the subsequent disposition of those funds have significant impacts in four areas of public policy: (A) environmental consequences (B) impacts in four areas of public policy; (C) revenue consequences for state, federal and local government and (D) potential impacts of future petroleum development.

Section VI concludes that the petroleum pipeline DR&R transaction functions as a long-term, interest-free loan to pipeline owners that frequently carries additional, unrecognized tax benefits, as well as special benefits to pipeline owners who are shipping their own oil.

Weather Windows for Oil Spill Countermeasures

Oil spill countermeasures are affected by weather such that, in some cases, these countermeasures cannot continue under adverse weather conditions. A literature review was carried out to determine if there were data related to the performance of all countermeasure techniques under varying weather conditions. Although the literature did not provide any quantitative guides for the performance of countermeasures under varying weather conditions,

data could be extracted to enable assessment of changes in their performance related to weather conditions. Many estimates or traditional limits are found in the literature, but these vary considerably and may not be useful.

Wind and wave height are the most important factors influencing countermeasures. These two factors are related and, given sufficient time for the sea to become 'fully-arisen', can be inter-converted. These factors must sometimes be considered separately, however, so that specific weather effects can be examined. Other weather conditions affecting countermeasures include currents and temperature. Currents are the critical factor for certain countermeasures such as booms. Temperature primarily affects the performance of dispersants and has been shown to have only minimal effect on other countermeasures. Formation of ice, however, is a problem with most countermeasures.

Booms are the type of countermeasures most susceptible to weather conditions. Conventional booms will fail at a current of 0.5 m/s (1 knot) regardless of the boom's design or other conditions. This is due to inherent hydrodynamic limitations. There is wave-associated degradation of this value, which is dependent on design. Failure data for some typical booms are summarized.

Skimmers show degradation of recovery potential with increasing wave height and also with relative current. Skimmer performance is very specific to a given skimmer. A number of skimmer performance curves have been developed for this study. Some skimmers only function effectively in absolutely calm waters while other have recovered oil in sea states up to 5 or 6 (wave heights of up to 3 m or 10 feet with corresponding winds of up to 15 m/s or 30 knots). Sufficient data exist to predict performance with waves and currents for over 30 specific skimmers and over 10 generic types. Advancing skimmers often recover more oil with increasing tow rate as this increases the encounter rate with the oil.

The weather affects dispersant application and effectiveness in three ways: the amount of dispersant that contacts the target is highly wind-dependent; the amount of oil dispersed is very dependent on ocean turbulence and other energy; and the amount of oil remaining in the water column is dependent on the same energy. Nomograms for relative dispersant effectiveness have been created. At high sea energies, natural dispersion is very much a factor for lighter oils.

The weather affects in-situ burning in two ways: the ability to ignite oil in a given wind and the ability to sustain ignition in a given wind. While there are few data on these, the probability of ignition was estimated based on prior experience.

The effects of weather on other countermeasure methods have been summarized.

(f) Financial summary

(1) Budget and spending plan for coming year – See Attachment 1.

(2) Work Plans for budget-approved studies and projects – See Attachments 1 and 2.

(3) Short-term strategy covering budget year – See Attachments 1 and 2.

(4) Long-term plan with goals, objectives and operating environment over next 3 to 5 years – See Attachment 2.

(5) Previous year's financial report – See Attachment 3.

(g) PWSRCAC funding

PWSRCAC's primary funding source is a long-term contract with Alyeska Pipeline Service Co. It provides approximately $2.8 million per year. A copy is included as Attachment 4.

As discussed above, PWSRCAC also receives money from other sources in the course of conducting joint scientific and technical research, and occasionally contributes its own funds to research projects conducted by others. Here are some examples of those jointly funded projects active or anticipated in the current recertification period:

Long-Term Environmental Monitoring Program

The Exxon Valdez Oil Spill Trustees Council is our co-sponsor in this program.

Intertidal Habitat Contaminant Sensitivities and Pathways

The Prince William Sound Science Center of Cordova is our co-sponsor in this project.

Non-indigenous species

The council's research in this area is conducted in partnership with a number of other organizations: National Sea Grant, the U. S. Fish and Wildlife Service, the American Petroleum Institute, Great Lakes Protection Fund, and the management and staff of the shipping companies SeaRiver Maritime and Alaska Tanker Company.

(h) Accessibility of Application

PWSRCAC will inform the public of its recertification application through newspaper advertisements (see Attachment 5) and a press release (see Attachment 6).

Copies of the application will be available free upon request to PWSRCAC's Anchorage or Valdez office.

(i) Communications with industry and government

PWSRCAC's goal is to maintain open, non-confrontational communications with government and industry that will further all our efforts toward safer oil transportation in our region.

We favor the collaborative approach, with all interested parties brought to the table to scope an issue, agree on objectives and otherwise maximize cooperation.

Industry and government representatives are encouraged to attend and participate in board and committee meetings, and they are provided with agendas and background information in a timely manner. PWSRCAC routinely solicits their comments and input.

As noted above, PWSRCAC's board provides ex-officio seats for ten government agencies, including the Coast Guard, the EPA and the Alaska Department of Environmental Conservation.

To promote effective communication with our chief industry contact – Alyeska Pipeline Service Co. – PWSRCAC has developed standard operating procedures founded on the "no surprises" principle. Top executives of PWSRCAC and Alyeska meet quarterly to discuss relations between the two organizations, and the staffs interact daily.

PWSRCAC staff also interacts regularly with officials of the shipping companies operating oil tankers out of Valdez, and executives of these companies frequently visit the council's Valdez and Anchorages offices on an informal basis. Also, shipper executives

regularly accept invitations to address the council at board meetings. In September 2004, Antonio Valdes, general manager of ConocoPhillips Marine, and Bob Lindsay, president of Conoco's Polar Tankers shipping subsidiary, spoke to the board at length about a series of spill incidents that occurred aboard ConocoPhillips tankers in 2004.

These frequent, multi-level contacts between PWSRCAC and industry mean that each side is continuously aware of other's perspectives on a variety of issues. We expect these contacts to continue and it appears the industry also finds them of value.

PWSRCAC participates in a host of industry and/or government-sponsored group efforts, as described elsewhere in this application. The more formal groups include the Valdez Marine Safety Committee, chaired by the Coast Guard; the Non-Indigenous Species Working Group, co-chaired by PWSRCAC and U.S. Fish and Wildlife Service; the Aquatic Nuisance Species Western Regional Panel, sponsored by U.S. Fish and Wildlife Service; the Valdez Marine Terminal Strategic Reconfiguration working group, chaired by PWSRCAC; the Valdez Marine Terminal and Tanker contingency plan working groups, led by ADEC; the Geographic Response Strategies working group, co-chaired by industry and ADEC; the Prince William Sound Potential Places of Refuge working group, chaired by ADEC; the Prince William Sound Area Maritime Security Committee, led by the Coast Guard; the Alaska Regional Response Team and related working groups, an advisory board to Federal On-Scene Coordinator led by the Coast Guard, ADEC and EPA; and the Sub-Area Committees and related working groups led by the Coast Guard and NOAA.

PWSRCAC has communication agreements with the U.S. Environmental Protection Agency, ADEC and the Joint Pipeline Office. In addition, informal relationships with the Coast Guard MSO Valdez provides a conduit for exchange of information and documents related to specific issues about the environmentally safe operation of the Valdez Marine Terminal and associated tankers.

In addition, the council employs contractors in Juneau, Alaska, and Washington, D.C., to monitor legislative and administrative developments at the state and federal levels in areas of council concern. These contractors advise the council on how to respond and on occasion provide oral or written testimony on behalf of the council.

In summary, PWSRCAC continues to pursue and, we believe, maintain the type of relationship with industry and government envisioned in OPA90.

Recently, Commander Mark Swanson of the Valdez Marine Safety Office stated in a press interview about PWSRCAC: "It's good to have them. ... If they think any of the regulatory agencies are slipping on the job or aren't as rigorous as they think they should be, they're not bashful about speaking up. I think it's a tremendously valuable tool."

Attachments

Attachment 1: Fiscal Year 2005 budget

Attachment 2: Current Long Range Plan

Attachment 3: Most recent financial statement

Attachments 4-A and 4-B: Contract and Funding Agreement with Alyeska Pipeline Service Co.

Attachment 5: Newspaper Advertisement

Attachment 6: Press Release

Attachment 7: 2003-2004 Year In Review