

ALASKA LEGISLATURE SPECIAL COMMITTEE/SUBJECT FILE 8672
2033 SCOMM 78: SENATE SPEC. COMM. ON OIL & GAS, 1991-1992

57

DOCUMENT PACKAGE #4

1. Alyeska ballst water survey for EXXON BERNICIA 5/10/89

Reports transfers from Barge "Phoenix 121" of 17,087 bbls "(of which 14,306 is free water)" and from Barge "UT-10" of 49,653 bbls "(of which 2,077 is oil)."

2. Exxon declaration of inspection for discharge of slops from Barge Phoenix to Exxon Bernicia 5/9/89

Reports transfer of "slops from Exxon Valdez - 24,000 bbl of oil" and unidentified amount of water to the barge Phoenix.

SIGNIFICANCE OF DOCUMENTS:

- * Documents transfer of liquid cargo:

- * from barges lightering TAPS trade tankers, and

- * from barges lightering non-TAPS trade tankers.

- * Documents transfer of liquid cargo of unknown or unidentified content; i.e.,

- * Barge Phoenix 121:

- 17,087 bbl transferred - 14,306 bbl of water = 2,781 bbl of what?

- * Barge UT-10:

- 49,653 bbl transferred - 2,077 bbl of oil = 47,576 bbl of what?ts

Ship Name Exxon Benicia		Berth Four	Date 5/10/89
In From SAN FRANCISCO		Outbound To SAN FRANCISCO	
Information Provided By J. Poulos C/M		Form Completed By J. Poulos C/M	
Amount of Dirty Ballast to Discharge 213,682 (bbls.)	Location Dirty Ballast Taken Aboard SAN FRAN, BARGE UT-10 & PHOENIX 121		Into Tanks 5C, 4C, 3C, 1C
Were Dirty Ballast Tanks Washed Prior to Filling? ☐ Yes ☒ No EXCEPT IC	Method of Washing ☒ C.O.W. ☐ Hot Seawater ☐ Cold Seawater		
Were Cleaning Agents Used? ☐ Yes ☒ No	Amount of Cleaning Agent Used gal.	Type and Name of Cleaning Agent	
Was Last Cargo Other than North Slope Crude? ☐ Yes ☒ No	Cargo if Other than NSC	Estimated Amount of Other Residue to be Pumped Ashore bbls.	
Will Slop Tank Contents be Pumped Ashore? * ☒ Yes ☐ No SEE ATTACH C	Is There Anything Other than North Slope Crude Residues in the Dirty Ballast to be Discharged Ashore? ☒ Yes ☐ No	List Other Residues and Estimate Amounts: SHOWER & BILGE WATER FROM ELLER CALIFORNIA	
Will Bilge Water be Discharged? FROM TUG EXXON NO CALIFORNIA ☒ Yes ☐ No	Are there any unusual substances in the Bilge Water? ☐ Yes ☒ No	If Yes, Identify	
If dirty ballast tanks were washed and cleaned, or if residue other than North Slope Crude exist, notify the Marine Supervisor prior to commencing discharge ashore. A determination must be made as to potential process adjustments required to maintain process control. Retain this completed form in Ships file. If BWT process is adjusted, then attach a copy of this form to the BWT Batch Data Sheet.			
Comments: from Barge "Phoenix 121" 17,087 bbls (of which 14,306 is free water) from Barge "U.T. 10" 49,653 bbls (of which 2,077 is oil)			

3657 (1/88) * See Ballast Water Survey 5-9-89 from barge UT-10. Off-loading Bilge water was approved by night shift. BWT informed of substance @ 0710 5/10/89 (JP)

PLEASE FILL IN HIGHLIGHTED AREA

Alyeska pipeline
SERVICE COMPANY

THIS SURVEY IS FOR THE
OILY WATER OFFLOADED TO THE **Ballast Water Survey**
BENICIA FROM THE BARGE PHOENIX.

Ship Name EXXON BENICIA		Birth FOUR	Date 5-9-89
In From SAN FRANCISCO		Outbound To SAN FRANCISCO	
Information Provided By J. Poulos ym; & Mitch GORDON		Form Completed By J. Poulos ym; Mitchel GORDON	
Amount of Dirty Ballast to Discharge Approx 24,000 (bbls)	Location Dirty Ballast Taken Aboard Prince William Sound	Into Tanks 4C	
Were Dirty Ballast Tanks Washed Prior to Filling? ☐ Yes ☒ No	Method of Washing ☐ COW ☐ Hot Seawater ☐ Cold Seawater		
Were Cleaning Agents Used ☐ Yes ☒ No	Amount of Cleaning Agent Used N/A gal.	Type and Name of Cleaning Agent N/A	
Was Last Cargo Other than North Slope Crude? ☐ Yes ☒ No	Cargo if Other than NSC unknown	Estimated Amount of Other Residue to be Pumped Ashore Same 24,000 bbls	
Will Slop Tank Contents be Pumped Ashore? ☐ Yes ☒ No	Is There Anything Other than North Slope Crude Residues in the Dirty Ballast to be Discharged Ashore? ☒ Yes ☐ No	List Other Residues and Estimate Amounts unknown	
Will Bilge Water be Discharged? ☐ Yes ☒ No	Are there any unusual substances in the Bilge Water? ☐ Yes ☒ No	If Yes, Identify —	
If dirty ballast tanks were washed and cleaned, or if residue other than North Slope Crude exist, notify the Marine Supervisor prior to commencing discharge ashore. A determination must be made as to potential process adjustments required to maintain process control. Retain this completed form in Ships file. If BWT process is adjusted, then attach a copy of this form to the BWT Batch Data Sheet.			
Comments SLOPS LOADED FROM BARGE PHOENIX.			

NAME OF VESSEL: BARGE PHOENIX DISCHARGES SLOPS TO EXXON BENICIA

DATE: 5/09/89

An oil transfer operation may not be conducted to or from a vessel unless each respective person in charge has determined by inspection and initiated in the appropriate space that each specific requirement has been met.

DELIVERER	RECEIVER
☒ A. Mooring lines are adequate for all anticipated conditions	☒
☒ B. Cargo hoses and/or loading arms long enough for intended use are attached to fixed connections and have met test and identification requirements	☒
☒ C. Cargo hoses are adequately supported to prevent kinking or other hose damage and strain on the couplings	☒
☒ D. The transfer system is properly lined up for discharging or receiving oil	☒
☒ E. Each flange connection on the cargo system not being used during transfer operations is securely blanked or shut off	☒
☒ F. Cargo hoses and/or loading arms are connected to the manifolds using suitable gasket material and with the exception of a full threaded or approved quick connect coupling, suitable bolts are used in at least every other hole (minimum of 4 bolts) for ANSI standard flange couplings	☒
☒ G. All connections are leak free except for packing glands, etc.	☒
☒ H. Each overboard discharge and sea suction valve connected to the cargo system is sealed or latched in the closed position except when used to receive or discharge ballast in compliance with 33 CFR 157	☒
☒ I. Adequate spill containment have been provided for each hose handling and loading arm area, oil transfer manifold and connection, tank vent overflow and fill pipe	☒
☒ J. Each drain and scupper of the spill containment system is closed by the required mechanical means	☒
☒ K. Monitoring devices (if required by COTP) are installed and operating properly	☒
☒ L. Operable communication systems are provided between the facility and the vessel(s) with procedures established and understood between persons in charge	☒
☒ M. Emergency shutdown system is in position and operable	☒
☒ N. Adequate spill containment equipment is available and can be readily deployed	☒
☒ O. Persons in charge of the transferring and receiving stations report condition of readiness and agree to begin the transfer operation	☒
☒ P. Qualified and designated personnel are in charge and on duty at the facility and the vessel(s) control stations, conducting transfer operations in accordance with and having in possession a copy of the facility operations manual and/or vessel(s) oil transfer procedures	☒
☒ Q. At least one person is present during transfer operations who fluently speaks the language(s) of both persons in charge	☒
☒ R. Each (nonmetallic) cargo hose has no unrepaired loose covers, kinks, bulges, soft spots or any other defect which would permit the discharge of oil through the hose material and no gouges, cuts or slashes that penetrate the first layer of hose reinforcement	☒
☒ S. Adequate fixed lighting of each terminal and vessel(s) transfer connection point and work area is provided	☒
☒ T. The inert gas system is being operated as necessary to maintain an inert atmosphere, in compliance with 48 CFR 32.53-5	☒
☒ U. Persons in charge of the transferring and receiving stations have held a conference to assure the mutual understanding of the following details of the transfer operations:	☒
1. Product identity to be transferred: SLOPS FROM EXXON VALDEZ - 24,000 BBL OIL	☒
2. Sequence of transfer operation: START SLOP, INCREASE WHEN ONLY OIL STOP, NOTIFY SKIP AFTER LINE-UP SWITCH RESUME	☒
3. Transfer rate of flow: ~ 3,000 / HR.	☒
4. Name or title and location of each person participating in transfer operation	☒
5. Details of the transferring and receiving systems	☒
6. Critical stages including starting, stopping, topping and shutdown	☒
7. Emergency procedures including transfer shut down, containment, notification and cleanup of oil spill	☒
8. Watch and shift arrangements	☒
9. Applicable federal, state and local rules	☒

The following item is to be filled out by vessel(s) personnel only.

The requirements as set forth in detail in 48 CFR 38.38-20 concerning the display of warnings, repair work authorization, boiler and galley fire safety, fire or open flames, the determination and designation of safe smoking areas, and the inert gas system have been met.

I certify that I have read, understand and agree with the foregoing as initiated and agree to begin / continue operation.

PERSON IN CHARGE (DELIVERER)			PERSON IN CHARGE (RECEIVER)		
SIGNATURE/TITLE	TIME	DATE	SIGNATURE/TITLE	TIME	DATE
Mitch Ladd	0800	5/9/89	C/M	0235	5/09/89

MONITORING CONTRACT



Official Business

Alaska State Legislature

P.O. Box V
State Capitol
Juneau, Alaska 99811

May 21, 1991

John Sandor, Commissioner
Dept. of Environmental Conservation
P.O. Box O
Juneau, AK 99811

Dear Commissioner:

Today, the House and Senate passed HB 75, the FY 92 operating budget. HB 75 appropriates \$175,000 from the Oil and Hazardous Substance Release Response Fund to the Department of Environmental Conservation to fund a contract with the Prince William Sound Regional Citizens Advisory Council (RCAC) to develop an independent testing and monitoring program for the ballast water treatment facility in Valdez.

This appropriation language is a result of extensive hearings in both the Senate and House on the ballast water treatment plant at the Valdez Marine Terminal. Those hearings documented substantial concerns regarding the adequacy of the monitoring at the plant by both the terminal operator and the agencies with regulatory responsibility.

It was our conclusion that state and federal agencies charged with oversight do not have sufficient information on the origins or composition of the ballast water being treated at the plant. Serious questions have been raised as to whether hazardous wastes, specifically tank washings, tank cleanings and diesel engine and other sludges, are being run through the system, whether the system is capable of treating these wastes and if the Port Valdez is in fact an "impaired waterway".

The funding provided for by section 20(e) of the operating budget will enable DEC to contract with RCAC to develop, in consultation with the Citizens' Oversight Council, a plan for testing and monitoring the ballast off-loaded to the ballast water facility, the effluent discharged into the Port Valdez and the long term effects on the biological system in Prince William Sound.

As articulated by the appropriation language, it is intended that RCAC should utilize 470 funds for the contract and that costs be recovered from Alyeska Pipeline Service Company. If the Department chooses to develop an alternative mechanism of direct payment or reimbursement from Alyeska, this would be consistent with the legislative intent of this appropriation section, provided the "direct billing" arrangement fully provides RCAC with the resources needed to adequately develop and implement the testing and monitoring program.

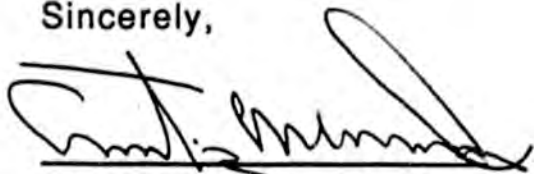
Regardless of the mechanism developed by the Department for recovery of the program costs, it is critically important to the fulfillment of the purpose of this appropriation that the study be performed without any perception of bias. Therefore, in forwarding this responsibility to the Department it is imperative that the testing and monitoring program developed and implemented by the RCAC in consultation with the Citizens' Oversight Council be free of any undue influence by Alyeska or the owner companies. In other words, Alyeska and the owners should not be allowed to direct or control the scope or depth of the program, the environmental consultant contract criteria or the contractor selection process.

We also would like to encourage you to process the contract with RCAC as soon as possible as we believe that development and implementation of an independent testing and monitoring program is a first step toward resolving many of the questions surrounding the ballast water treatment facility and the effluent discharges into Prince William Sound.

We look forward to working with you on development and implementation of this very important program and appreciate your recent efforts to step up oversight and investigation of tanker practices and operations.

Page 3
BWT Monitoring Program

Sincerely,



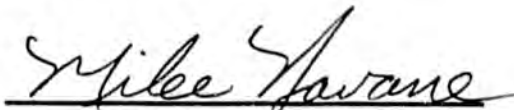
Senator Curt Menard, Chair
Senate Transportation Committee



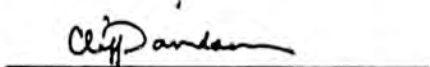
Senator Pat Pourchot, Co-Chair
Senate Finance Committee



Senator Bettye Fahrenkamp, Chair
Legislative Council



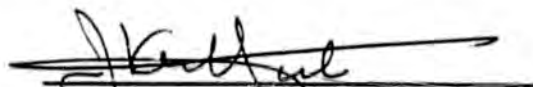
Rep. Mike Navarre, Co-Chair
House Committee on Finance



Rep. Cliff Davidson, Chair
House Committee on Resources



Senator Sam Cotten, Chair
Senate Oil & Gas Committee



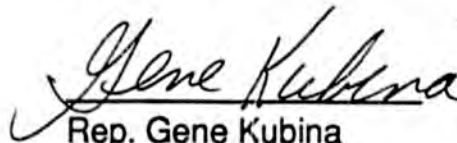
Senator Jay Kerttula, Co-Chair
Senate Finance Committee



Rep. Bill Hudson, Chair
House Committee on Oil & Gas



Rep. Kay Brown, Chair
DEC Budget Subcommittee



Rep. Gene Kubina
District 6

DEPT. OF ENVIRONMENTAL CONSERVATION

OFFICE OF THE COMMISSIONER
P.O. BOX O, JUNEAU, AK 99811-1800

(907) 465-2600
Fax: (907) 586-1391

May 15, 1991

The Honorable Sam Cotten
Chairman, Senate Special Committee on Oil and Gas
Alaska State Senate
P. O. Box V
Juneau, AK 99811

Dear Senator Cotten:

During recent hearings by the Senate Transportation Committee, you requested answers to three questions posed to the Department staff.

Does DEC have the necessary statutory authority to charge Alyeska for the State's monitoring of the BWT facility through user fees?

Yes, the Department would be able to charge back to Alyeska any costs it incurred to conduct monitoring required under the facility's NPDES permit. It is normal practice for the holders of these federal permits themselves to be responsible for conducting monitoring. EPA has told us they are not aware of any case where either a regulator or a third party is required to conduct the monitoring for a permit holder.

Does DEC believe the State should be responsible for monitoring of the facility, with the cost charged back to Alyeska?

The Department believes that the best use of the Department resources is to carefully monitor the work of Alyeska and its contractors while continuing to perform random sampling ourselves using DEC's on-scene resources and our Douglas laboratory. The DEC does not believe it is necessary to charge these costs back to Alyeska. Second, we support Senator Menard's suggestion that Alyeska contract with the Regional Citizens' Advisory Council's Monitoring Committee to provide arms-length oversight of their ballast water monitoring, just as now occurs at Sullom Voe in Scotland. We believe that was one of the original purposes of the RCAC, both in federal law and in their contract with

May 15, 1991

Alyeska. Third, Alyeska has invested substantial resources in an on-site laboratory. This laboratory is certified by the State's Douglas lab annually. As a means of verifying this lab's performance, DEC will conduct random sampling as outlined in the enclosed memorandum.

We anticipate Alyeska will continue its own monitoring efforts in order to track test results of others. I expect this effort to be mutually beneficial as verification of test results will be necessary for establishing sample analysis validity.

What is the status of the Department's current monitoring program?

There are two components to this answer; there is the information provided by Alyeska and its contractor as a result of the NPDES permit's conditions, and the monitoring DEC is doing beyond the requirements of the permit.

Much information is provided under the NPDES permit. There are a number of monitoring reports available which are required under the NPDES permit. I have enclosed four recent reports, including a summary report of environmental monitoring. No adverse impacts are noted by these or other reports.

Our Department has gathered additional information through its efforts at implementing the sampling and monitoring plan which has been enclosed. We will continue with this effort. We are meeting with Alyeska, the TAPS tanker fleet, and EPA to document tanker practices, operations, and other aspects of the BWT facility which may adversely impact the environment or conditions of the NPDES permit as is appropriate. One result is the ballast water survey form is being revised to more accurately represent the discharge of ballast water.

The Technical Advisory Group (TAG) will be an important part of our effort to improve the BWT monitoring program. As convener of this group, we will take a more active role reviewing the TAG's recommendations. As important issues are raised, we will consult with EPA, Regional Citizens' Advisory Committee (RCAC), and other interested groups to make certain that all relevant indicators are included in either required or voluntary monitoring programs.

The Department of Environmental Conservation has put in place a comprehensive plan to monitor the operations of the Alyeska Ballast Water Treatment (BWT) Facility. Our monitoring plan covers all aspects of the BWT: influent and effluent monitoring, tanker practices, operations, and environmental impact. This plan reflects heightened concerns about the need for increased regulatory oversight of this facility and I expect that over time, as data is gathered, we will have greatly increased our knowledge of this facility.

I have enclosed a memorandum prepared by the Southcentral Regional Office which outlines the sampling plan we have instituted.

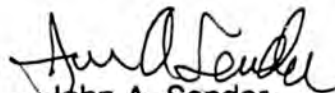
May 15, 1991

Results of DEC tests conducted since February do not indicate a permit violation. More testing will be necessary to determine if permit violations are occurring or if additional monitoring is needed. Test dates and environmental monitoring is reviewed as the Department receives it. It will take time to understand the results of the studies and data.

The Department is exercising proper regulatory oversight for the BWT. Certainly, improvements are always possible, but the existing NPDES and DEC plan addresses the significant issues raised about this facility's operator and DEC's oversight.

If I may be of further assistance, please don't hesitate to contact me. I will keep you updated as our monitoring program continues.

Sincerely,


John A. Sandor
Commissioner

ENCLOSURES: Sampling Plan Memo
 Monitoring Reports (4 each)

cc: Senator Curt Menard (with enclosures)

Sheila Gottehrer, Executive Director
Regional Citizen's Advisory Council

Mike Williams, Vice President for Environment and Contingencies
Alyeska Pipeline Service Company

Svend Brandt-Erichsen, Regional Administrator
ADEC - Southcentral Region (w/o enclosures)

Art Ronimus, Environmental Engineer
ADEC - Southcentral Regional Office (w/o enclosures)

Janice Adair, Special Assistant to Commissioner
ADEC - Juneau (w/o enclosures)

Doug Redburn, Environmental Manager
ADEC - Water Quality Management - Juneau (w/o enclosures)

Gunny
FYI

Alaska State Legislature



Sen. Curt Menard, Chair
Sen. Lloyd Jones, Vice-Chair
Sen. Bettye Fahrenkamp, Member
Sen. Drue Pearce, Member
Sen. Dick Shultz, Member

P.O. Box V
Juneau, AK 99811

907 465-4921

Senate Transportation Committee

May 21, 1991

John Sandor, Commissioner
Department of Environmental Conservation
P.O. Box 0
Juneau, AK 99811-1800

Dear Commissioner:

Thank you for copying me with your letter of May 15 to Senator Cotten and providing copies of the monitoring reports.

I am encouraged by the interest you have expressed in increasing our knowledge of the ballast water treatment facility, influent and effluent monitoring, tanker practices, operations and environmental impacts on Prince William Sound. Hopefully this heightened concern will result in increased regulatory oversight of the facility and tanker operations. I was not aware that DEC had a comprehensive BWT monitoring plan and would appreciate your forwarding a copy to me.

I also appreciated your comments of support for the independent monitoring and testing contract with RCAC. I am looking forward to working with DEC, RCAC and the Citizens' Oversight Council in the development of the program and seeing the concerns raised during recent House and Senate committee hearings adequately addressed.

After your comments before the Senate Resources Committee regarding DEC's renewed investigation into tanker operations and practices, my staff spoke with Svend Brandt-Erichsen in Anchorage regarding progress on the investigation. It's my understanding that the investigation at this time is focusing on a historical review of documents pertaining to tanker operations and possible permit violations. I would be interested in

Page 2

Commissioner Sandor

receiving the report or statement of findings which is drafted as a result of this documents investigation.

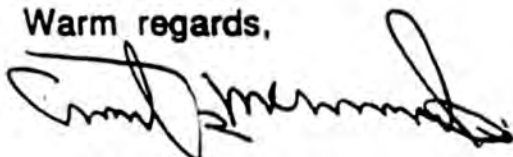
Also, to familiarize myself with the types of records which DEC maintains, I would like you to provide me with a representative sampling of the types of documents which your staff is reviewing as a part of their investigation.

From what I have read about the members of the Technical Advisory Group (TAG), they appear to be a competent group of scientists. I encourage you to avoid duplication in your monitoring and oversight efforts and therefore support utilizing the TAG's expertise wherever possible in resolving issues which have arisen surrounding oversight of the BWT and in improving our monitoring program. I would like to know when you intend to convene the TAG so that I or a member of my staff could attend the meeting. Also, I would be interested to know what the NPDES permit requirements are related to participation by the TAG in monitoring report development and review of completed reports?

Lastly, I would like to request that you forward me a copy of the NPDES permit which applies to BWT plant operations.

I look forward to working with you and your staff on resolution of these ballast water issues through the interim and appreciate your renewed investigation into tanker operations and alleged permit violations. I believe that we can improve our regulatory oversight and monitoring of the ballast water facility.

Warm regards,

A handwritten signature in dark ink, appearing to read "Curt Menard", written over a horizontal line.

Senator Curt Menard, Chair
Senate Transportation Committee

Alaska State Legislature

Sen. Curt Menard, *Chair*
Sen. Lloyd Jones, *Vice-Chair*
Sen. Bettye Fahrenkamp, *Member*
Sen. Drue Pearce, *Member*
Sen. Dick Shultz, *Member*

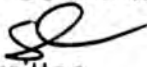


P.O. Box V
Juneau, AK 99811
907 465-4921

Senate Transportation Committee

MEMORANDUM

TO: CS HB 75 Conference Committee Members

FROM: Senator Curt Menard, Chair 
Senate Transportation Committee
Senator Sam Cotten, Chair 
Senate Oil & Gas committee

RE: Conference Committee Front Section Request

DATE: May 10, 1991

We would like to request your support for the **Senate** language in the front section of HB 75 which provides \$175,000 of contract funding to DEC for independent environmental monitoring and testing at the Alyeska ballast water treatment facility in Valdez. (Senate CS for CS for House Bill 75 p. 4, lines 22-26).

The DEC will contract with the Prince William Sound Regional Citizens Advisory Council (RCAC), a group of community and local government representatives established by Congress under the Oil Pollution Act of 1990 and charged with ensuring that the Alyeska terminal and tanker operations are conducted in an environmentally sound manner.

Extensive hearings were held earlier this session by House and Senate Oil & Gas and Transportation Committees regarding the State's oversight and monitoring of the ballast water treatment plant at Alyeska. The consensus derived from the hearings was that independent environmental testing, monitoring and verification of Alyeska's monitoring and testing program is essential and should be implemented.

We would appreciate your support of the Senate language.

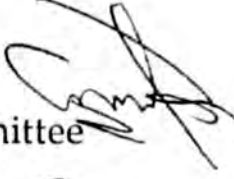
Alaska State Legislature

Sen. Curt Menard, *Chair*
Sen. Lloyd Jones, *Vice-Chair*
Sen. Bettye Fahrenkamp, *Member*
Sen. Drue Pearce, *Member*
Sen. Dick Shultz, *Member*

P.O. Box V
Juneau, AK 99811
907 465-4921

Senate Transportation Committee

TO: Senator Pat Pourchot, Co-Chair
Senator Jalmar Kerttula, Co-Chair
Senate Finance Committee

FROM: Senator Curt Menard, Chair 
Senate Transportation Committee

Senator Sam Cotten, Chair 
Senate Oil and Gas Committee

DATE: April 23, 1991

RE: Alyeska Terminal Ballast Water Testing & Monitoring

The purpose of this memorandum is to ask for your support in making an amendment to the front section of the operating budget regarding use of the Oil and Hazardous Substances Release Response Fund (the 470 Fund) to provide for an appropriation of \$175,000 to the Department of Environmental Conservation, in consultation with the Citizens' Oversight Council on Oil and Hazardous Substances, to fund an independent testing and monitoring program for the ballast water treatment facility. A proposed amendment with appropriate language is attached for your consideration.

DISCUSSION

Recent events and revelations have led the Senate Transportation and Oil & Gas Committees to hold extensive hearings on the ballast water treatment plant at the Valdez Marine Terminal. Those hearings have raised substantial questions regarding the adequacy of the monitoring at the plant by both the terminal operator and the

agencies with regulatory responsibility. In order to ascertain the quality of terminal monitoring and to restore public confidence in the state's regulatory oversight of the facility, we would like to propose funding for alternative independent studies examining the situation at the plant.

Background

In 1974, the state entered into a "Right-of-Way Lease for the Trans-Alaska Pipeline" with seven oil companies. In the lease, the owner companies covenant that :

"Lessees shall manage, supervise and implement the construction, operation, [and] maintenance [of the TAPS] in accordance with the best practicable engineering technology available. . . to the extent allowed by the state of the art and the development of technology."

The lessees also promised to minimize pollution from TAPS.

This lease required the owner companies to appoint a common agent to operate and maintain the TAPS. The owners appointed Alyeska Pipeline Service Company as their common agent and Alyeska serves in that capacity today.

Alyeska is owned by Amerada Hess Pipeline Corporation, ARCO Pipe Line Company, Exxon Pipeline Company, Mobil Alaska Pipeline Company, Phillips Alaska Pipeline Corporation, BP Pipelines (Alaska), Inc.. and Unocal Pipeline Company. Alyeska's three main shareholders are ARCO Pipe Line Company, Exxon Pipeline Company, and BP pipelines (Alaska), Inc.. (formerly Sohio Alaska Pipe Line Company), which together own over ninety percent of the shares of stock in Alyeska.

Ballast Water Treatment System

Some of the most challenging environmental issues associated with the Trans-Alaska Pipeline are posed by the operation of Alyeska's Valdez Marine Terminal.

Tankers arrive at the terminal carrying ballast water in their cargo holds to keep the tankers stable during the voyage north. More ballast water is used in the winter because seas are worse.

Unsegregated ballast water mixes with residual oil in the holds of the tankers and therefore becomes contaminated. The ballast is off-loaded and treated in Alyeska's ballast water treatment (BWT) system.

The BWT is intended to reduce the contamination from the ballast water, particularly of BETX (benzene, ethylbenzene, toluene, and xylene), which are among the most actively toxic components of crude oil. The ballast water is then discharged into Valdez Bay. The BWT is regulated under a National Pollution Discharge Elimination System (NPDES) permit. The NPDES permit sets pollutant effluent limits and other conditions for operating the BWT. The state role in NPDES permitting is to impose any conditions necessary to certify "reasonable assurance" that Alaska's water quality standards are being met.

In 1986, Alyeska modified the system to add a biological (bug) treatment component. These organisms are supposed to eat most of the last remaining vestiges of the toxics and other polyaromatic hydrocarbon compounds in the effluent water before discharge. Alyeska chose to add the bugs as the least expensive method of improving the BWT performance during permit review, not because these bugs were necessarily the most effective technology.

Although it is regulated, the BWT facility is still discharging approximately 18 million gallons of wastewater — containing 152 pounds of BETX — on a daily basis. That is a discharge of 27.7 tons of BETX per year. Accordingly, permit inspection and monitoring is an ongoing intensive task.

The Problem

Recent allegations about what is being brought to Alaska as ballast water have raised concerns about the adequacy of the monitoring being done at the BWT. Currently, Alyeska performs routine self-monitoring on the effluent and the results are cross-checked and monitored by the Alaska Department of Environmental

Conservation (DEC). Each tanker calling at the terminal fills out a report, called a Ballast Water Survey Report, that details what is contained in the ballast water. However, this report does not indicate the origin of the ballast load.

On the basis of the testimony and materials developed during the Senate Transportation and Oil & Gas Committee hearings, it is apparent that the state and federal agencies charged with oversight do not have an independent and adequate grasp of the origins or the constituents of the ballast water being treated at the plant. There have been allegations that hazardous wastes (especially, tanker washings) are being run through the system and that the system is not capable of treating these wastes. Thus, these hazardous wastes are being discharged into Valdez Bay. Current effluent sampling will not necessarily detect these substances because they are not listed among the pollutants identified for testing.

The expectation of the people of the State of Alaska, especially since the 1989 Exxon Valdez oil spill, is that **we must no longer rely on industry self-monitoring and self-regulating** because it too often leads to the complacency that allowed this accident to happen.

MONITORING PROPOSAL

We would like to propose a multi-faceted approach to address this problem. The central proposal would entail a legislative appropriation from the Oil and Hazardous Substance Release Response Fund (470 Fund) of \$175,000 to the Department of Environmental Conservation to contract for independent testing and monitoring of the BWT facility.

1. The first step would be to establish an independent technically-proficient group that is capable of understanding the complexities of the BWT and overseeing additional monitoring and studies.

This group would consist of toxicologists, as well as scientists with expertise in RCRA hazardous wastes and wastewater treatment. This group would oversee, review, and advise the Department of Environmental Conservation on the monitoring

methods, sampling protocols, and results analysis. Costs associated with this group would include travel and per diem, reimbursement of telephone costs, and a retainer fee for the days spent working on this contract. It is estimated that this work could be done for about \$100,000.

2. An additional step that should be taken is to determine what substances are actually entering the BWT from tankers.

In order to accomplish this, an investigator would be hired to track down where the ballast water is being taken on by the tankers that load at Valdez. Until the ballast water is tracked to the source, it will be impossible to adequately monitor to determine if hazardous wastes are being sent through the BWT or to impose regulatory limits on what the terminal may accept from tankers. The tanker ballast water survey reports should be verified; tanker ballast loads should be traced back to their source. A contract for a full-time, six-month investigation would probably cost about \$50,000.

3. An informal advisory body could then be established to oversee a long-term regulatory approach based upon the results of the monitoring data.

The purpose of this group would be to help the legislature and regulatory agencies determine what level of monitoring and oversight is necessary given the information provided by the technical group and the investigator. (Is the state confident that the BWT is effectively treating wastes? Is it working as designed? Can it handle the priority pollutants? Can it handle other toxics?) This body would consist of the following:

- A Citizens' Oversight Council representative
- An EPA representative
- A DEC representative
- An Alyeska representative
- A PWS Regional Citizens Advisory Council member

The costs associated with this stage would be \$25,000 for travel, per diem, telephone, and miscellaneous office expenses.

In summary, total expenses for the entire effort described above would be \$175,000.

* * * * *

Thank you for your consideration of this proposal. Your assistance with this request would be greatly appreciated. If you need further information, please let us know or contact Johanna Munson, staff to the Senate Transportation Committee (465-2679) or Ginny Fay, staff to the Senate Oil & Gas Committee.

The sum of \$175,000 is appropriated from the Oil and Hazardous Substance Release Response Fund to the Department of Environmental Conservation for the development and implementation, in consultation with the Citizen's Oversight Council on Oil and Hazardous Substances, of an independent monitoring, testing and investigation of the Alyeska Terminal Ballast Water Treatment facility.

May 16, 1991

To: Sam
From: Ginny
RE.: Contract with RCAC for Alyeska Ballast Water Monitoring

I wanted to bring you up to date on some recent information regarding the Alyeska ballast water treatment facility and the appropriation to RCAC for independent monitoring.

Tanker Washings

The Boston Globe is expected to present a major article regarding a tanker washing incidence. Supposedly approximately 55,000 barrels of tanker washings were off loaded from the Arco Spirit, Arco Independence, and the Overseas Boston in Los Angeles to two Crowley Maritime barges on March 27. These washing were then loaded onto the Valdez-bound Tonsina for disposal at the BWT facility.

As a result of substances in the washings that could potentially be in violation of the NPDES permit, the EPA ordered that only a conservative cut be made below the oil layer during the Tonsina deballasting at the Alyeska BWT facility. This was to insure that only the water fraction be transferred. The remaining washings were then returned south. The problem arises, however, because supposedly these same washings were again returned to Valdez and deposited at the BWT facility without notifying the EPA. Johanna Munson spoke with Harold Geren of the EPA who could not explain why the washing were discharged the second time.

Alyeska Testimony at the Joint Ballast Water Committee Meetings

On April 11, Alyeska presented a chart showing daily maximum BETX effluent concentrations. Based on the chart presented of effluent levels from August 1989 through July 90, Alyeska testified that "[s]ince March 1990, the monthly average (of BETX emissions) has flattened out altogether." This testimony is at best misleading because information on effluent levels through December 1990 (attached), clearly illustrate that the monthly average has NOT

"flattened out."

Ballast Water Monitoring Contract

According to Richard Fineberg, who recently completed a contract for RCAC on the Alyeska BWT facility, there are factions within RCAC that gave him a bad time about his criticisms of Alyeska in his report--which I read and did not find objectionable. Richard is concerned that RCAC will be influenced by industry in contracting for the monitoring. To prevent this from happening, Johanna and I are working on a letter for your and Curt's signatures that stresses the importance of independent, objective research.

Attachment

From the desk of


Richard A. Fineberg
Juneau, Alaska 99801

401 8th St. - Apt. 208
tel 907 / 463-3568

To: Johanna Munson & Ginny Fay

Date: May 13, 1991

Re: Alyeska Materials on Ballast Water Treatment

In testimony before the House Oil & Gas Committee March 15, Gene Dickason, Alyeska Pipeline Service Co.'s Environmental Manager, presented an overhead chart that showed "BETX Final Effluent Daily Values" through December 1990. But in the information packet Alyeska distributed on that day, the company replaced the overhead chart with a chart that terminated on July 31, 1990. The chart submitted to the House for the record omitted the December 1990 BETX spike and thus appeared to support Alyeska's claim that "[s]ince March 1990, the monthly average (of BETX emissions) has flattened out altogether." This claim and the chart were contained in an Alyeska report presented that day, "Valdez Marine Terminal Ballast Water Treatment: Operations, History and Effects."¹

I requested the overhead chart from Alyeska several times during the preparation of my draft report on ballast water treatment for the Regional Citizens' Advisory Council. However, Alyeska did not respond to my information requests until after the draft report was completed and circulated to the RCAC's Terminal Operations and Environment Committee April 8. Andy Spear of House Oil & Gas advises me that although he asked Alyeska to provide the chart on more than one occasion, he never received it.

Subsequent to completion of my draft report, Alyeska did produce a copy of the overhead chart.

The version of "Valdez Marine Terminal Ballast Water Treatment: Operations, History and Effects" distributed at the Senate hearings of April 9-11 appears identical to the House version, except that Alyeska removed the charts tracking BETX values for the treatment plant effluent of the. It is my understanding that the overhead chart was shown to the committee. However, your committee records do not appear to include a copy of that chart.

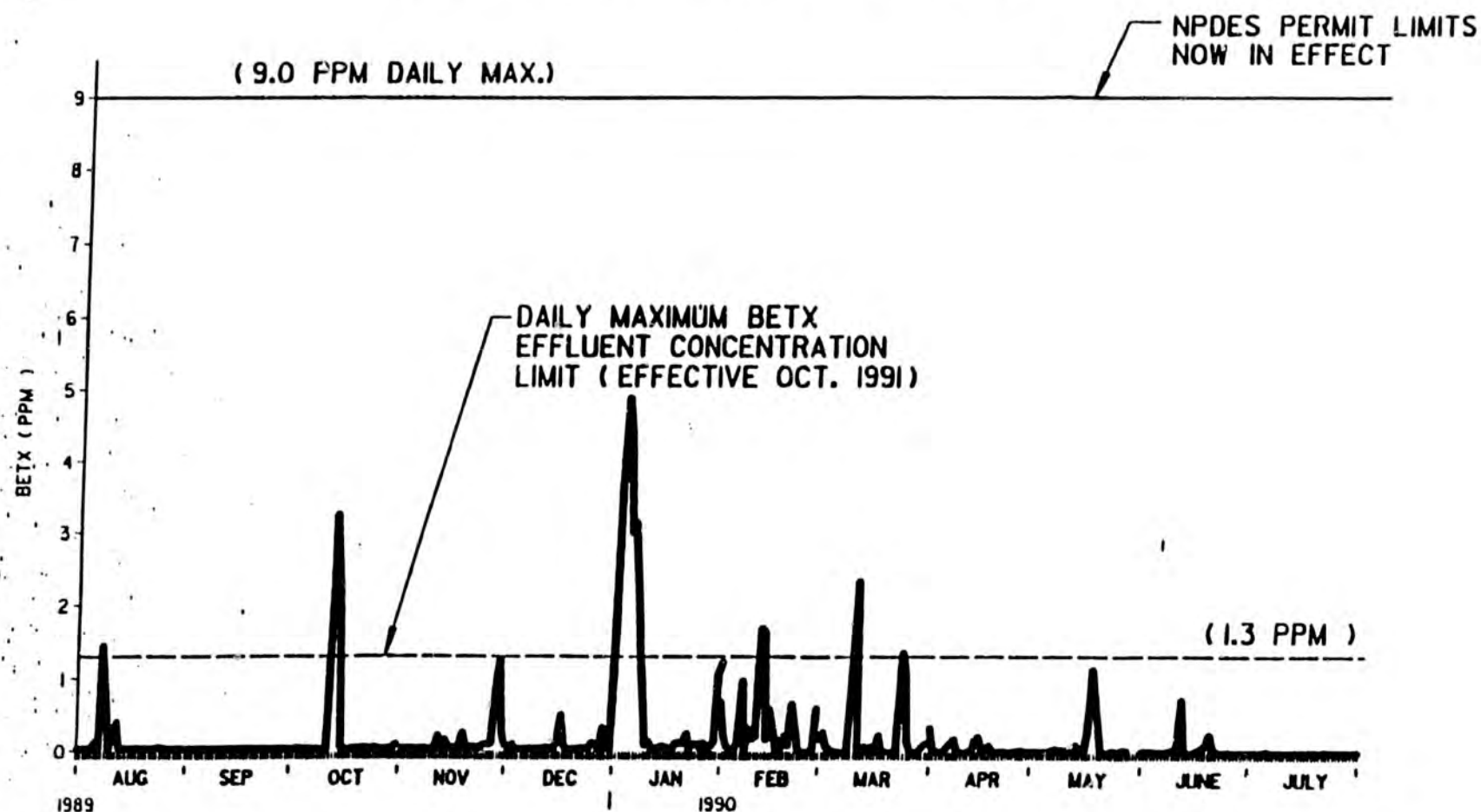
Attached are the outdated chart Alyeska provided the House Oil & Gas Committee March 15 and the chart running through December 1990, which Alyeska provided subsequent to the circulation of my draft report.

Note that the extension of the chart into the winter months appears to render false Alyeska's claim that "[s]ince March 1990, the monthly average (of BETX emissions) has flattened out altogether."

¹ Alyeska Pipeline Service Co., Feb. 1991, p. 3 and attachment.

Chart #1

BETX FINAL EFFLUENT DAILY VALUES

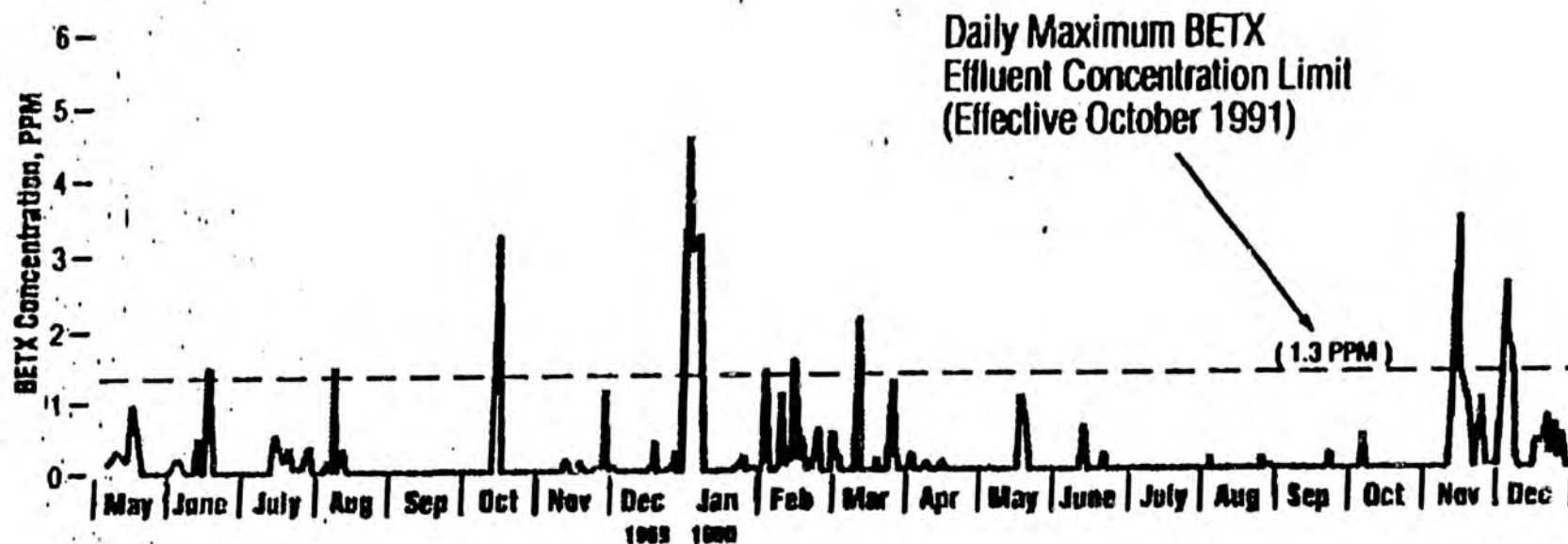


Alyeska pipeline
SERVICE COMPANY

Page 1 of 1

BETX Final Effluent Daily Values

May 1989 through December 1990



Alyeska pipeline

SERVICE COMPANY

1328 SOUTH BRADAW STREET, ANCHORAGE, ALASKA 99512. TELEPHONE (907) 278-1811 TELEEX 090-25127

April 15, 1991

Letter No . 91-8405-G
File No. B-4.00

Mr. Harold Geren
U.S. Environmental Protection Agency
Region 10
1200 Sixth Ave.
Seattle, WA 98101

Subject: Discharge of Cargo Tank Ballast Water from the
Tanker EXXON New Orleans into the Alyeska Ballast
Water Treatment Facility

Dear Mr. Geren:

This letter is to request authorization from the EPA for the discharge of transferred ballast water into our treatment system in Valdez. On or about April 17, 1991, approximately 40,000 barrels of cargo tank wash water will be transferred from the tanker EXXON Long Beach to the EXXON Galveston. These washings are sea water and Alaska North Slope crude oil. No cleaning agents were used in the wash water. The wash water will then be transferred from the EXXON Galveston to the EXXON New Orleans. The EXXON New Orleans is scheduled to arrive at the Valdez Terminal on or about April 22, 1991, at which time the wash water would be transferred to the Ballast Water Treatment facility.

If you have any questions concerning this request, please call me at (907) 265-8437.

Very truly yours,



for R.L. Mikkelsen
Environmental Permits Manager

RLM/rr

cc: Steve Provant, ADEC
Art Ronimus, ADEC
Simon Mawson, ADEC
Jerry Brossia, SPCO

rlm6561



MAR 28 1991

Reply to
Attn of: WD-137

Richard L. Mikkelsen
Manager, Environmental Permits
Alyeska Pipeline Service Co.
1835 South Bragaw Street
Anchorage, Alaska 99512

Re: NPDES Permit No. AK-002324-8, Transferred Cargo Tank
Washings and the Tonsina

Dear Mr. Mikkelsen:

This letter is in response to your request (dated March 26, 1991) for approval to discharge approximately 55,000 barrels of ballast water containing cargo tank washings from the Arco Spirit, Arco Independence, and the Overseas Boston which have been transferred to the Valdez-bound Tonsina. The last three cargos on the barges used to transfer the wash water were bunker fuel oil.

In accordance with Part I.B.2. of the Alyeska NPDES permit, the Environmental Protection Agency is hereby authorizing discharge of the cargo tank wash water to the BWT as requested. We have consulted with the Alaska Department of Environmental Conservation (ADEC), and they concur with this decision. The granting of this request is based upon our understanding, as stated in the attachment to your letter, that no cleaning agents or other chemicals have been used during the cargo tank washings, and that gravity separation of the residual oil and wash water will take place before discharge to the BWT. EPA also understands that a conservative cut will be made below the oil during deballasting to insure that only the water fraction will be transferred to the BWT. Only the water fraction is authorized for discharge. This decision is also based on the understanding that acceptance of these wastes by Alyeska will not result in violation of the NPDES permit. Discharge of this wastestream should be discontinued if it is determined that the discharge is causing a violation of the terms of the NPDES permit.

In light of the characteristics of bunker fuel oil (previous cargos in the transfer barges), additional precautions should be taken to insure that oil and/or sludge above and/or below the ballast water is not transferred to the BWT. A monitoring tool (oil/water interface probe or marine moisture electric probe) should be used during the transfer. Alyeska should provide assurance that no bunker fuel or sludges are discharged to the BWT from the Tonsina by submitting the gauge record of the oil/water interface probe measurements to EPA and ADEC. Additionally EPA requests that a sample of the ballast water off-loaded from the tank containing the tank washings be collected and analyzed for priority pollutants, plus any other tests that ADEC request. The analytical results shall be submitted to ADEC and EPA. ADEC may also want to collect a split sample for analysis. Steve Provant, ADEC-Valdez, or Art Ronimus, ADEC-Anchorage, should be contacted regarding collection of a split sample.

Questions concerning the above may be addressed to Anne Dailey at (206) 553-2110.

Sincerely,



Harold E. Geren, Chief
Water Permits and Compliance Branch

cc: John Sandor, ADEC-Juneau
Svend Brandt-Erichsen, ADEC-Anchorage
Art Ronimus, ADEC-Anchorage
Steve Provant, ADEC-Valdez
Roger Gale, BP Oil

Alyeska pipeline

SERVICE COMPANY

1608 SOUTH BRAGAN STREET ANCHORAGE, ALASKA 99512 TELEPHONE (907) 275-1611 TELEX 08025127

March 26, 1991

Letter No. 91-8334-G
File No. B-4.00
(transferred ballast)

Mr. Harold Geren
U.S. Environmental Protection Agency
Region 10
1200 Sixth Avenue
Seattle, WA 98101

Subject: Discharge of Cargo Tank Water from the Tanker
Tonsina into the Alyeska Ballast Water Treatment
Facility

Dear Mr. Geren:

This letter is to request authorization from the EPA for the discharge of transferred ballast water into our treatment system in Valdez. The attached letter to Gene Dickason from Captain Roger Gale describes the details of the transfers. The tanker carrying the transferred water is the Tonsina and she is due to arrive in Valdez on approximately April 2, 1991.

Your prompt response to this request would be appreciated. Because the barges used to transfer the wash water had previous cargoes other than North Slope Crude (bunker oils) please inform us if your office wishes Alyeska to collect and analyze samples of the water from the Tonsina should you approve discharge at Valdez.

If you need additional information on this request please call me at (907) 265-8437.

Very truly yours,



R. L. Mikkelsen
Environmental Permits Manager

lab/rln646L

cc Steve Provant, ADFC
Art Ronimus, ADEC
Simon Mawson, ADEC
Jerry Brossia, SPCO

1312

BP OIL

BP Oil Company
200 Public Square
Cleveland, Ohio 44114-2275
(216) 586-4141

March 25, 1991

Oscar E. Dickason
Manager, Environmental Dept.
Alaska Pipeline Service Co.
1835 South Bragaw St.
Anchorage, Alaska 99512

YSD	LT2	WJS	RLM	LLM	CRB
CJO	ENVIRONMENT				RAM
TRB	MAR 25 1991				SLM
SOH	✓ L. A. Maslen				LAB
MLS					PS
WGR	FILE	KLK	TEM	BLM	

Dear Gene

3 11.00 TRANSFERRED
BULKERS

Re: Transferred Cargo Tank Washings

The ARCO SPIRIT, ARCO INDEPENDENCE and the OVERSEAS BOSTON have been redelivered to owners, and are expected to proceed into lay-up. All three vessels carried out full crude oil washing of their cargo tanks, followed by water rinsing, prior to leaving our service. The tank washings from these vessels will be transferred via barges to the TONSINA, for carriage to and disposal via the Valdez BWT facility. Total volume of tank washings to be transferred is approximately 55,000 BLS.

No tank washing or other cleaning agents were used by any of the vessels involved, and the last three cargoes on the barges employed in the transfer, have been verified to have been bunker oils.

The TONSINA is currently scheduled to arrive in Valdez on or about the 2nd of April.

Yours truly,

R. A. Gale

R. A. Gale
Manager, Marine Transportation

cc: J. A. Maslen
G. Clark, Keystone

RAG:LLB



APR 18 1991

Reply to
Attn of: WD-137

Richard L. Mikkelsen
Manager, Environmental Permits
Alyeska Pipeline Service Co.
1835 South Bragaw Street
Anchorage, Alaska 99512

Re: NPDES Permit No. AK-002324-8, Cargo Tank Washings
Transferred from the EXXON Long Beach to the EXXON New
Orleans

Dear Mr. Mikkelsen:

This letter is in response to your request (dated April 15, 1991) for approval to discharge transferred ballast water. Approximately 40,000 barrels of ballast water containing cargo tank washings from the EXXON Long Beach will be transferred to the Valdez-bound EXXON New Orleans.

In accordance with Part I.B.2. of the Alyeska NPDES permit, the Environmental Protection Agency is hereby authorizing discharge of the cargo tank wash water to the Ballast Water Treatment Facility (BWT) as requested. We have consulted with the Alaska Department of Environmental Conservation (ADEC), and they concur with this decision. The granting of this request is based upon our understanding, as stated in your letter, that the tank washings contain only seawater and Alaska North Slope crude oil and that no cleaning agents or other chemicals have been used during the cargo tank washings. We also understand that gravity separation of the residual oil and seawater will take place before discharge to the BWT. A conservative cut shall be made below the oil during deballasting to insure that only the water fraction will be transferred to the BWT. Only the water fraction is authorized for discharge.

This decision is also based on the understanding that acceptance of these wastes by Alyeska will not result in violation of the NPDES permit. Discharge of this wastestream should be discontinued if it is determined that the discharge is causing a violation of the terms of the NPDES permit.

ADEC may want to collect a ballast water sample for analysis. Steve Provant, ADEC-Valdez, should be notified of the EXXON New Orleans' arrival time so that collection of a sample could be arranged.

Questions concerning the above may be addressed to Anne Dailey at (206) 553-2110.

Sincerely,



Harold E. Garen, Chief
Water Permits and Compliance Branch

cc: Svend Brandt-Erichsen, ADEC-Anchorage
Art Ronimus, ADEC-Anchorage
Steve Provant, ADEC-Valdez

Alaska State Legislature

SENATOR BETTYE FAHRENKAMP
CHAIRMAN, LEGISLATIVE COUNCIL
CHAIRMAN, ADMINISTRATIVE REGULATION
REVIEW COMMITTEE
119 N. CUSHMAN STREET, SUITE 201
FAIRBANKS, ALASKA 99701
OFFICE (907) 452-4882
HOME (907) 456-2899



Senate

WHILE IN JUNEAU
P.O. BOX V
JUNEAU, ALASKA 99811
CAPITOL, ROOM 125
OFFICE (907) 465-3834
HOME (907) 780-6027

MEMORANDUM

TO: Senator Menard, Chair, Transportation Committee and
Senator Cotten, Chair, Special Committee on Oil and
Gas.

FROM: Senator Bettye Fahrenkamp *AF*

DATE: April 10, 1991

SUBJECT: Alyeska Ballast Water Treatment

Although I have not been able to attend the hearings on Alyeska's ballast water treatment plant (BWT), my staff has closely followed this issue. In addition, we have reviewed background materials and testimony.

I find it interesting that with as much as has been written on the subject of the Valdez Terminal's ballast water treatment, we actually know so little. Charges have been leveled and detailed explanations presented. These are my perceptions:

1. Contaminated ballast has been transferred from other tankers and shore holding tanks to TAPS tankers heading for Valdez. That ballast was then discharged to the BWT.
2. Some of that ballast contained tank cleaning agents of unknown (90% petroleum base) composition.
3. In the past, EPA and DEC documentation, testing and tracking procedures have been inadequate to answer questions about exactly what was in contaminated ballast and where it originated.

What is the problem here? Frankly, I'm less concerned with what goes into the BWT than with what comes out. Our focus should be on the question of hydrocarbon pollution in the water and sediment in Prince William Sound. We need to know if the mixing zone model used to evaluate the plant's operation is valid. The question of BETX or metabolites of BETX accumulating in the sediments must also be addressed.

It appears that some BWT effluent monitoring and testing by Alyeska was sloppy and inconclusive. After the experience of the oil spill and the recent controversy over pipeline structural testing, I believe self-monitoring by Alyeska is inappropriate.

The Department of Environmental Conservation does not have the expertise or facilities to maintain adequate periodic testing necessary to answer questions about pollution from the BWT.

Therefore, I urge the committees to consider asking the Technical Advisory Group to prepare a Request For Proposals from private environmental consulting firms. The purpose would be to implement a monitoring and testing project designed to minimize uncertainties surrounding the Alyeska ballast water treatment facility.

OVERVIEW

Alaska State Legislature

Sen. Curt Menard, *Chair*
Sen. Lloyd Jones, *Vice-Chair*
Sen. Bettye Fahrenkamp, *Member*
Sen. Druc Pearce, *Member*
Sen. Dick Shultz, *Member*

P.O. Box V
Juneau, AK 99811

907 465-4921

Senate Transportation Committee

OVERVIEW

SENATOR CURT MENARD, CHAIRMAN

The Alyeska Marine Terminal in Port Valdez and the TransAlaska Pipeline System (TAPS) tanker fleet play vital roles in the movement of North Slope oil to market. The state shares regulatory responsibility with the federal government for overseeing this entire system--from wellhead to tanker.

Following the Exxon Valdez oil spill, the industry, state and federal governments, and public worked together to reduce the risk of oil spills. Given the recent controversy regarding oil tanker ballast water and the 1988 declaration of Port Valdez as a "toxic impaired waterway," many issues regarding marine oil pollution from oil tankers still remain.

Tankers arrive at the TAPS Valdez Marine Terminal carrying ballast water in their cargo holds to keep the tankers stable during the voyage north. More ballast water is used in the winter because seas are worse. Unsegregated ballast water mixes with residual oil in the holds of the tankers, and therefore becomes contaminated. The ballast water is off-loaded and treated in Alyeska's ballast water treatment system (BWT). In addition to the usual ballast water of tankers arriving at Valdez, questions have been raised regarding the transfer of ballast water between tankers to be unloaded at the Alyeska facility. The tanker industry recently stated that the transfer of ballast water from other North Slope tankers to northbound tankers is a common practice.

The BWT is intended to reduce the contamination from ballast water, particularly of BETX (benzene, ethylbenzene, toluene, and xylene), which are the most actively toxic components of crude oil. After treatment, the ballast water is discharged into Valdez Bay. The BWT is regulated under a National Pollution Discharge Elimination System (NPDES) permit. The

NPDES permit sets effluent levels and other conditions for operating the BWT facility. The state's role in the NPDES permitting process is to impose necessary conditions to certify "reasonable assurance" that Alaska's water quality standards are met.

When the Valdez facility was initially planned, permitted and constructed, Alyeska agreed to provide a state-of-the-art BWT facility. In addition, as part of the TAPS Right-of-Way lease, Alyeska contracted with the state to prevent or abate any environmental damage, including marine pollution. However, Alyeska has failed to install or use several of the key components to the state-of-the-art system over the years. Instead, Alyeska modified the BWT system in 1986 to add a biological or "bug" treatment component.

The bugs are supposed to "eat" most of the remaining toxins and other polyaromatic hydrocarbons in the effluent water before discharge from the BWT facility. Alyeska chose to add the bugs as the least expensive method of improving the BWT performance during the permit review, not because bugs were the most effective technology. This biological treatment component has been criticized as suboptimal in the cold Alaska environment.

After the EPA issued a proposed new NPDES permit, Alaska certified the permit only with more stringent limits on the amount of BETX in the effluent. Alaska also imposed some additional conditions to assure compliance with state law. Alyeska aggressively challenged each term of the state's certificate, as well as the EPA's NPDES permit, in a series of administrative proceedings in both the state and federal arenas. Alyeska unsuccessfully sued the state of Alaska to challenge the permit terms, including the reduced BETX limits.

Although regulated, the BWT facility is still discharging approximately 18 million gallons of wastewater, containing 152 pounds of BETX per year. Permit inspection and monitoring of this level of discharge is an intensive task. As a result of reductions to the Alaska Department of Environmental Conservation budget in 1982, Alyeska has essentially been self-monitoring. This has resulted in considerable controversy regarding scientific methods and acceptable levels of discharge at the facility.

Questions regarding tanker ballast water transfers and washings are further complicated because of inconclusive monitoring results--without accurate information on the BWT facility performance, it is difficult to determine if the facility can handle additional tanker ballast water and washings.

It became apparent during the March 15 and 18, House Special Committee on Oil and Gas hearings, that many factors may have contributed to the deterioration of the Valdez waterway. The Senate committees will further explore the issues brought forward during the House hearings and, if necessary, to make recommendations to reduce the risk from chronic pollution in Port Valdez.

Alaska State Legislature

Sen. Curt Menard, *Chair*
Sen. Lloyd Jones, *Vice-Chair*
Sen. Bettye Fahrenkamp, *Member*
Sen. Drue Pearce, *Member*
Sen. Dick Shultz, *Member*

P.O. Box V
Juneau, AK 99811

907 465-4921

Senate Transportation Committee

SENATE TRANSPORTATION AND OIL & GAS COMMITTEE HEARINGS

APRIL 9 & 11, 1991

ALYESKA BALLAST WATER TREATMENT & TAPS TANKER OPERATIONS

The purposes of the Senate Transportation and Oil & Gas Committee oversight hearings are to:

- 1) determine the extent to which TAPS tanker operators are transporting tank washings, "slops," tank cleanings, and diesel sludges in their ballast water for disposal at Alyeska from vessels within and outside the TAPS trade (hereafter "these practices") and the impact of these additional inputs on the BWT facility;
- 2) determine the extent to which these practices are allowed under state, federal, and international law;
- 3) determine the extent to which past investigations into these practices, initiated in 1985 by DEC and EPA, were resolved;
- 4) determine the extent to which the Alyeska ballast water treatment (BWT) facility is capable of meeting state and federal water quality permits;
- 5) determine the extent to which the regulatory agencies (DEC, EPA, and the Coast Guard) are capable of overseeing the Alyeska BWT facility and TAPS tanker operations and monitoring these operations for compliance with state, federal, and international laws and/or how regulatory agencies are presently overseeing Alyeska;

laws and/or how regulatory agencies are presently overseeing Alyeska;

- 6) determine the extent to which the Alyeska BWT and TAPS tanker operations, past and present, and the level of regulatory oversight contributed to the designation of Port Valdez as a toxic impaired waterway in 1988; and
- 7) determine appropriate action and recommendations.

PURPOSE #1 - EXTENT OF TAPS TANKER PRACTICES

BACKGROUND

Independent investigation by Boston Globe maritime reporter William Coughlin has corroborated recent allegations by Charles Hamel that Exxon and other TAPS tankers have been transporting tank washings, "slops", tank cleanings, and diesel sludges in their ballast water for disposal at Alyeska (Media - 2/19/91 article).

During the House Oil & Gas oversight hearings, TAPS shippers acknowledged that transfer of tank washings between vessels for transportation to and disposal at the Alyeska BWT facility was common practice, but denied transfers of "liquid cargo" (tank washings and cleanings) from shore terminals to tankers. However, Alyeska testified that:

"The available facilities on the West Coast have a limited capacity to receive and treat tank washings and ballast. As a result, either the ballast may be stored on shore and then returned to vessel for its subsequent trip to Valdez or they are transferred to another north bound TAPS trade vessel for discharge to [Alyeska Testimony, Pg. 4, 3/15/91 Minutes]."

Sample DEC ballast water discharge certificate affidavits, in concert with engineer log books and a deposition, show that tank washings are transferred from ship to ship (which was acknowledged by the shippers at the 3/15/91 hearing) and also that tank cleanings are transferred from shore to vessel. This set of documents also indicates that the DEC reporting procedure for ballast water discharge fails to identify when substances other than "normal" ballast are discharged at Alyeska.

Ship repair yards charge substantial fees for disposal of tank cleanings prior to drydock. At \$3.90 per barrel (Port of Portland fee), disposal of 50,000 barrels of tank cleanings (average quantity for large tankers) amounts to nearly \$200,000. Vessels are drydocked at least once every two years for USCG inspection, but can be drydocked more often depending on repairs. Alyeska does not charge for disposal of tank cleanings through its BWT facility.

During testimony before the House Oil & Gas committee, Exxon and BP stated that diesel sludge from their diesel powered tankers is collected in barrels, shipped south, analyzed by EPA to determine if it is a RCRA hazardous waste, then disposed of accordingly. Records documenting chain of custody and receipts for disposal have been requested from these shippers.

Shippers also testified during House Oil & Gas hearings that small amounts of "90 percent" petroleum based cleaning agents were used to wash tanks between cargo trips. Shippers stated that use of such cleaning agents is expected to increase in the future. The assumption is that since the cleaning agents are petroleum based, they will be removed from the water by the Alyeska BWT facility prior to discharge of the effluent. Records documenting the chemical composition of the cleaning agents and the quantity of compounds currently in use have been requested.

QUESTIONS

- 1) Have tanker washings, slops, tanker cleanings, or sludge (hereafter "substances") been introduced through the cargo lines or over the deck of tankers in your fleet and transported to Alyeska from January 1, 1986, to the present? If so, what type of substances?
- 2) Have "substances" been introduced from other vessels in your service, or independently employed, including those in the TAPS trade destined for drydock and those vessels not in the TAPS trade, to tankers in your fleet and transported to Alyeska from January 1, 1986, to the present? If so, what types of substances?
- 3) Have "substances" been transferred from shore tanks or barges to tankers in your fleet north bound to Alyeska from January 1, 1986, to the present? If so, what types of substances?
- 4) Have diesel powered tankers in your fleet transferred or discharged diesel sludge to ballast water, via slop tanks or other such intermediate routes, for disposal at Alyeska from January 1, 1986, to the present?

- 5) Have any tankers in your service decanted "clarified bottom water" from their dirty ballast tanks into their segregated ballast tanks upon traversing the Gulf of Alaska?
- 6) Where and/or how does your company dispose of tank pre-drydock cleanings? How much does this cost per barrel and total (average) per tanker? Are there records for receipts from the shipyard, collection company or reclaimer?
- 7) Does your company employ the use of barges to dispose of or hold tank pre-drydock cleanings?
- 8) Do you use cleaning agents to wash cargo tanks? If so, what is the chemical composition of these cleaning agents?

PURPOSE #2 - LEGALITY OF TAPS TANKER PRACTICES

BACKGROUND

Transportation, handling, discharge, and disposal of oily ballast, oily sludges and slops is regulated by state, federal, and international law, including the state water quality standards, the Clean Water Act (CWA), the Resource Conservation and Recovery Act (RCRA), the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), and the international convention for the prevention of pollution by ships, 1973, and amended in 1978 (MARPOL 73/78).

EPA and DEC are currently investigating the legality of TAPS tanker practices and testified at the House hearings on 3/18/91 that the NPDES permit does mention, in the BMP plan, that cleaning agents may be in ballast water, but not other material (engine sludges, slops and tank cleanings).

Jim Dickson, Captain of the Port Authority for the Sullom Voe terminal in Scotland, stated that in his opinion, "EPA and DEC are very generous in their approval of additional dirty ballast/washings/slops at Valdez. . . It appears to me that Alaska is being used as a dumping ground due to failures by Federal Government, ship owners and USCG to ensure compliance with MARPOL" (Stats.b & Regs.- Dickson fax) Lt. Commander John McQueeney, USCG, has reviewed this issue and will be available to answer questions at the Senate hearings.

QUESTIONS

- 1) Can tank washings, tank cleanings, slops, and diesel engine sludges be legally discharged by incoming tankers at the Alyeska BWT facility under the NPDES permit? Under MARPOL?
- 2) When ballast material is transferred from tanker to tanker, is this lightering process regulated by the USCG? Under MARPOL?
- 3) When ballast material or liquid cargo is transferred between tankers and barges, is this lightering process regulated by the USCG? Is disposal of waste material from barges regulated under MARPOL?

- 4) When was the BMP plan modified to include cleaning agents in the ballast water?
- 5) What other modifications have occurred in either the NPDES permit or the BMP plan that would substantially change either the amount or the content of incoming ballast water and when did these changes occur?
- 6) How are water and solids handled from the Alyeska crude oil storage tanks?

PURPOSE #3 - SUMMARY OF PAST INVESTIGATIONS

BACKGROUND

Investigations into similar allegations by Charles Hamel were initiated in 1985 by EPA (Bob Athmann and John Hahn), DEC (Bill Lamoreaux, Dan Lawn and Bob Martin), and Assistant Attorney Generals (Loni Levy, Jeff Cole and their associates). The investigations substantiated most of the allegations, but were discontinued in 1988.

QUESTIONS

- 1) Summarize the findings of the investigation initiated in 1985. What, if any, changes in TAPS tanker or BWT operations occurred as a result of these findings? What, if any, changes in regulatory oversight occurred as a result of these findings?
- 2) When were the DEC ballast water discharge certificate affidavits first developed and what was the original intent? Are the forms adequate to detect additions to ballast water such as tank cleanings, tank washings, slops and sludge?
- 3) Who is responsible for checking the forms? How often and how carefully are they checked?

4/9/91
DAN
LAWN
Bill Lamoreaux
↓

Comment:

- Alyeska, Gene Dickason
- Oil Reform Alliance, Riki Ott

PURPOSE #4 - ABILITY OF BWT FACILITY TO COMPLY WITH LAWS

BACKGROUND

As approved by Congress in 1977, the BWT facility was designed in construction phases that corresponded to anticipated increased pipeline throughput. Alyeska promised in the right of way lease covenants to stay abreast of technology developments and to continually upgrade equipment.

Alyeska is currently operating with a BWT facility that fails to carry out the original intent of Congress. Pipeline throughput has increased four fold without the required facility expansion and upgrading. The technology gap has meant the absence of such basic measurement data that it has taken the State's full attention to evaluate whether Alyeska complies with minimum state and federal standards.

Monitoring studies have shown that increasing levels of hydrocarbons are accumulating in the sediment of Port Valdez. This trend indicates that the BWT facility is either overloaded or was not designed properly (i.e., faulty computer modeling), or both, as treatment is resulting in incomplete removal of hydrocarbons from the effluent.

Since 1986 (after the biological treatment system was installed), one field study, contracted by Alyeska, has been conducted to verify compliance with state water quality standards. Valdez District Engineer and Supervisor, Dan Lawn reviewed the data and reported 508% more "apparent and probable" permit violations than reported by Alyeska. (DEC documents - ADEC Review of Alyeska's Data Report, March, 1986)

Alyeska now claims that these mixing zone verification studies were conducted before the BWT impound basins were converted into biological treatment units. (Alyeska testimony, Pg.12, 3/15/91 Minutes) This indicates that there have been no field verification studies for the system currently in use at Alyeska to show compliance with state water quality standards in the mixing zones.

A mixing zone for hydrocarbons and other chemicals discharged into Port Valdez is currently allowed under the NPDES permit. A mixing zone is a volume of water in which the State's water quality standards are exceeded to allow dilution of effluent. Water quality standards must be met at the boundary of the mixing zone.

According to the state's water quality standards, a mixing zone is not allowed if "pollutants discharged could bioaccumulate; concentrate or persist in the environment; cause carcinogenic, mutagenic, or teratogenic effects; or otherwise present a risk to human health" (18 AAC 70.032. (a)(1)). The carcinogenic properties of benzene, a compound present in the effluent, and its derivatives (i.e., metabolites) are well established.

Not only is a mixing zone allowed under the NPDES permit, but the size of the mixing zone was substantially increased 16-fold in the 1980 NPDES permit. This also runs counter to state water quality standards which state that "a mixing zone must be as small as practicable" (18 AAC 70.032.(d)). (DEC Documents - Balden Audit, Pg. 12, 1988)

QUESTIONS

- 1) How do the present pollution control systems (i.e., the BWT and sludge facilities) at Alyeska compare to the original design drawing approved by Congress?
- 2) How often annually is the BWT facility operating at or near maximum capacity? (Note: Alyeska testified on 3/15/91 that tankers were required to queue up because of limited capacity of the BWT holding tanks. Alyeska Testimony, Pg. 12, 3/15/91 Minutes.)
- 3) How much money is lost per hour for tankers that have to "queue" to deballast (as indicated in House Oil & Gas hearings)?
- 4) How much profit has Alyeska made for the owner companies since startup?
- 5) Did DEC or the Attorney General ever audit Alyeska's (or Alyeska's contractors') scientific monitoring studies? If so, what did the audits show?

- 6) What has the Technical Advisory Group (TAG) recommended to improve BWT operations? Have any TAG recommendations been adopted by DEC and EPA?
- 7) Why is a mixing zone allowed for Alyeska? Is it possible for Alyeska to meet the state's water quality standards without a mixing zone?

PURPOSE #5 - ABILITY OF REGULATORY AGENCIES TO MONITOR ALYESKA

BACKGROUND

During House Oil & Gas hearings, EPA and DEC testified that they do not believe that the level of oversight and monitoring is sufficient to ensure permit compliance. Further, Art Ronimus from DEC testified that the staff in the Valdez office do not currently have the background or expertise to monitor Alyeska, but are on a "learning curve." DEC has undergone extensive personnel turnover in the last two years and consequently lacks staff and supervisors with experience Alyeska operations.

Although federal and international (MARPOL) law regulate discharge and disposal of ballast water and sludge, many countries are finding that "Coast Guard investigative and prosecution efforts are seriously inadequate and do little to deter polluters" (Media - 2/25/91 Boston Globe article).

It is important to realize that materials loaded onto TAPS tankers as ballast could impair water quality in Port Valdez, yet these practices may receive little regulatory oversight from the USCG at ports where these transfers occur.

QUESTIONS

- 1) What level of oversight, in terms of number of ^ustff, qualifications of staff, staff hours, and resources, has your agency committed to monitoring Alyeska operations since January 1, 1986?
- 2) Does your agency believe this is a sufficient level of oversight? If not, why not?
- 3) How closely was Alyeska monitored for compliance in the year following the Exxon Valdez spill compared to prior and later years?
- 4) Has your agency ever conducted independent studies to corroborate Alyeska's findings? If so, when? If not, why not? Would such studies be desirable?

- 5) How confident is your agency that Alyeska is complying with state, federal, and international law based on your monitoring capabilities?
- 6) Has there been any communication among the USCG Marine Safety Office Valdez and the other Marine Safety Offices regarding TAPS tanker ballast water practices? If so, what did the communication entail?

DEFINITIONS

BMP plan	best management practices plan is treated as an extension of the NPDES permit by EPA, DEC, and industry
BWT	ballast water treatment
COW	crude oil washing system involving high pressure spraying of tank walls with water, sometimes followed with a solvent wash
MARPOL 73/78	international convention for the prevention of pollution by ships, 1973, as amended in 1978 (MARPOL = MARine POLLution)
NPDES	national pollution discharge elimination system
oily slops	cargo drainings, washings, and other oil mixtures (33 CFR pg. 302)
oily sludge	high molecular weight polycyclic aromatic hydrocarbons, heavy metals, metal particles, sediment particles, and other substances that settle out of ballast water during treatment and/or transportation
tank washings	originate when cargo tanks are washed between cargo trips with crude oil washing system involving high pressure water and sometimes solvents or cleaning agents
tank cleanings	originate when cargo tanks are washed in preparation for drydock with corrosive compounds and solvents that strip crude oil and metal scale from tank walls producing sludge
TAG	Technical Advisory Group - created in the 1989 NPDES permit and composed of six

scientists with DEC and EPA as co-chairs and Alyeska as a non-voting member. Purpose to advise DEC and EPA on BWT issues.

TESTIMONY

4/9/91



Oil Reform Alliance

ORAL TESTIMONY OF RIKI OTT
ON BEHALF OF THE OIL REFORM ALLIANCE

BEFORE THE SENATE TRANSPORTATION AND OIL & GAS COMMITTEES
APRIL 9, 1991

MY NAME IS RIKI OTT. I AM A CORDOVA RESIDENT AND COMMERCIAL FISHER. I HAVE A MASTERS IN OIL POLLUTION AND A DOCTORATE IN SEDIMENT POLLUTION. I AM TESTIFYING AS PRESIDENT OF THE OIL REFORM ALLIANCE. I AM ALSO A MEMBER OF THE TECHNICAL ADVISORY GROUP AUTHORIZED UNDER EPA'S DISCHARGE PERMIT TO ADVISE EPA AND DEC ON BALLAST WATER TREATMENT ISSUES AT ALYESKA.

THE SAME COST-CUTTING MEASURES BY INDUSTRY AND LACK OF OVERSIGHT BY REGULATORY AGENCIES THAT LED TO THE EXXON VALDEZ DISASTER ARE ALSO LEADING TO CHRONIC POLLUTION OF PORT VALDEZ. JUST AS WE WORKED TO REDUCE RISK TO THE PUBLIC AND THE ENVIRONMENT FROM CATASTROPHIC OIL SPILLS, WE MUST NOW WORK TO REDUCE RISK FROM CHRONIC POLLUTION.

SINCE 1988, PORT VALDEZ HAS BEEN DESIGNATED A TOXIC IMPAIRED WATERWAY BY THE STATE BECAUSE OF DOCUMENTED VIOLATIONS OF THE STATE'S WATER QUALITY STANDARDS AND ACCUMULATION OF HYDROCARBONS FROM THE TERMINAL IN THE SEDIMENT OF PORT VALDEZ.

TO ME, WHEN HYDROCARBONS ACCUMULATE IN SEDIMENT, IT IS THE FIRST REAL INDICATION OF CHRONIC POLLUTION. IT MEANS, IN A NUTSHELL, THAT THE BALLAST WATER TREATMENT (BWT) SYSTEM IS FAILING TO REMOVE HYDROCARBONS FROM ITS EFFLUENT AS PREDICTED, FOR WHATEVER REASON.

WHAT WENT WRONG? WE NEED ONLY LOOK TO THE CONTENT OF INCOMING BALLAST WATER FROM TAPS TANKERS AND OUTGOING EFFLUENT FROM THE BWT SYSTEM.

INDEPENDENT INVESTIGATION BY BOSTON GLOBE MARITIME REPORTER WILLIAM COUGHLIN HAS COLLABORATED ALLEGATIONS BY CHARLES HAMEL THAT EXXON AND OTHER TAPS TANKERS HAVE BEEN TRANSPORTING TANK WASHINGS & CLEANINGS, SLOPS, AND DIESEL SLUDGES IN THEIR BALLAST WATER TO ALYESKA FOR DISPOSAL.

WHEN THESE SAME ALLEGATIONS AROSE IN 1985, EPA AND DEC CONDUCTED A THREE YEAR INVESTIGATION INTO THE MATTER. AT THE TIME, THE ALLEGATIONS WERE EMPHATICALLY DENIED BY THE

SHIPPERS. DEC AND EPA EVENTUALLY DROPPED THE INVESTIGATION, PUBLICLY DISMISSING THE ALLEGATIONS.

HOWEVER, EPA'S REPORT ON THE INVESTIGATION, KEPT SECRET UNTIL THIS MOMENT, INDICATES THAT EPA HAD, IN FACT, DOCUMENTED NUMEROUS CASES OF TRANSFERS OF TANK WASHINGS & CLEANINGS, SLOPS, AND UNKNOWN MATERIALS FROM BARGES, SHORE TERMINALS AND NON-TAPS TRADE VESSELS TO TAPS TANKERS FOR DISPOSAL AT ALYESKA.

IT IS EXTREMELY DISCONCERTING THAT SOME OF THE PRACTICES DENIED BY INDUSTRY IN 1985 (YET VERIFIED BY EPA INVESTIGATORS), ARE NOW OPENLY REFERRED TO AS "COMMON PRACTICE." FURTHER, VESSEL RECORDS AND OTHER DOCUMENTS PROVE THAT SHIPPERS STILL TRANSFER TANK CLEANINGS FROM BARGES, SHORESIDE TERMINALS AND FROM OTHER VESSELS TO TAPS TANKERS IN STARK CONTRAST TO EXXON SHIPPING COMPANY PRESIDENT A. ELMER'S TESTIMONY THAT:

"THESE CHARGES ARE CATEGORICALLY FALSE AND TOTALLY UNFOUNDED." (3/15/91 HOUSE OIL & GAS.)

CONVERSATIONS WITH WEST COAST SHIP REPAIR YARD OPERATORS, BARGE COMPANY OWNERS AND PAST ALYESKA EMPLOYEES REVEAL THAT IS AND WAS COMMON PRACTICE FOR TANKERS COMING INTO DRYDOCK TO TRANSFER THEIR CLEANINGS ONTO EITHER A "TANKER OF OPPORTUNITY" (A TAPS TANKER COMING OUT OF DRYDOCK) OR A BARGE FOR HOLDING TO RETURN TO ALASKA OR FOR DISPOSAL ASHORE.

THESE TRANSFERS BYPASS BOTH THE SHIP REPAIR YARD DISPOSAL FEES AND U.S. & INTERNATIONAL LAW (MARPOL 73/78) WHICH REQUIRES THAT LARGE AMOUNTS OF SLUDGE AND TANK CLEANINGS BE DISPOSED OF AT LICENSED SITES AND, USUALLY, INCINERATED" (COUGHLIN 1991).

ACCORDING TO JIM DICKSON, POLLUTION CONTROL OFFICER AT SULLOM VOE, SCOTLAND:

"IN MY OPINION, EPA AND DEC ARE VERY GENEROUS IN THEIR APPROVAL OF ADDITIONAL DIRTY BALLAST, WASHINGS, [AND] SLOPS AT VALDEZ... IT APPEARS TO ME THAT ALASKA IS BEING USED AS A DUMPING GROUND DUE TO FAILURES BY THE FEDERAL GOVERNMENT, SHIP OWNERS AND USCG TO ENSURE COMPLIANCE WITH MARPOL" (FAX MEMO 4/4/91).

CONGRESS CERTAINLY NEVER INTENDED PRINCE WILLIAM SOUND TO BECOME AN INDUSTRIAL WASTE DUMP FOR THE WEST COAST OIL INDUSTRY. CONGRESS MANDATED IN THE TAPS RIGHT-OF-WAY AGREEMENT THAT BWT OPERATIONS BE ROUTINELY REVIEWED AND MAINTAINED WITH BEST AVAILABLE TECHNOLOGY (BAT). THE REQUIREMENT FOR BAT AT ALYESKA PRECEDED SIMILAR REQUIREMENTS FOR THE REST OF THE NATION BY NEARLY A DECADE. CLEARLY

ALYESKA WAS A STATE-OF-THE-ART FACILITY WHEN FIRST CONSTRUCTED, BUT IT HAS NOT BEEN MAINTAINED AS PROMISED. THE TERMINAL WAS NEVER SCALED UP IN SIZE TO HANDLE CURRENT PIPELINE THROUGHPUT. A SHORTAGE OF CRUDE OIL STORAGE TANKS FORCES ALYESKA TO USE TANKERS FOR "STORAGE" AND MOVE CRUDE INTO TANKERS AS FAST AS POSSIBLE. THIS MEANS TANKERS ARE OFFLOADING BALLAST WATER - AND PROCESSING IT - AS FAST AS POSSIBLE.

THE BWT FACILITY IS OVERLOADED: IT HAS ONLY THREE OF THE FIVE BALLAST WATER HOLDING TANKS PLANNED FOR CURRENT PIPELINE THROUGHPUT. THE VOLUME OF WATER PROCESSED BY THE BWT PLANT HAS INCREASED BY ALMOST FIFTY PERCENT COMPARED TO THE VOLUME TREATED BETWEEN JULY 1984 AND JUNE 1985.

THE BIOLOGICAL TREATMENT SYSTEM IS SIMPLY NOT OPERATING EFFICIENTLY AND IT IS NOT BAT. FOR COMPARISON, THE DOW CHEMICAL/UPJOHN PLANT IN NEW HAVEN, CT: X

- 1) CAPTURES AND DESTROYS BETX GASES EMITTED FROM THE IMPOUND BASINS (ALYESKA VENTS INTO THE ATMOSPHERE);
- 2) HAS A FLOW RATE THROUGH THE PLANT OF 400 GALLONS PER MINUTE (ALYESKA AVERAGES OVER 11,000 GPM); AND
- 3) REMOVES SLUDGE DAILY FROM THE SYSTEM AND ENCASES IT IN CONCRETE FOR BURIAL.

THE PRIME FUNCTION OF A BWT IS TO ELIMINATE TOXIC SUBSTANCES FROM THE EFFLUENT BEFORE IT REACHES THE RECEIVING ENVIRONMENT. THE BULK OF WASTE MATTER GENERATED BY OILY WASTEWATER TREATMENT IS IN A FORM OF OIL SLUDGES, PRINCIPAL REPOSITORIES OF HAZARDOUS AND TOXIC COMPOUNDS SEPARATED FROM THE WASTESTREAM.

THE ORIGINAL ALYESKA PLANT DESIGN INCLUDED A SLUDGE INCINERATOR - A ROTARY KILN CAPABLE OF HANDLING UP TO 3,000 POUNDS OF SLUDGE PER HOUR. NO SLUDGE INCINERATOR HAS EVER BEEN BUILT.

THE ALYESKA FACILITY IS LARGELY SELF-MONITORING AND THERE HAS BEEN NO FIELD STUDY TO DATE TO VERIFY COMPLIANCE OF THE BWT EFFLUENT WITH THE STATE'S WATER QUALITY STANDARDS. IN FACT, NO ONE HAS A CLEAR UNDERSTANDING OF THE PHYSICAL OR BIOLOGICAL PROCESSES OCCURRING IN THE IMPOUND BASINS. FOR A FACILITY THAT IS ALLOWED TO LEGALLY DISCHARGE 32 TONS PER YEAR OF HIGHLY TOXIC AND CARCINOGENIC COMPOUNDS, I FIND THIS

inexcusable

IN SUMMARY, IT IS SMALL WONDER THAT PORT VALDEZ WAS DECLARED A TOXIC IMPAIRED WATERWAY. CONTRIBUTING FACTORS INCLUDE:

- 1) FAILURE OF TAPS TANKER OPERATORS TO FOLLOW THE LETTER AND SPIRIT OF U.S. AND INTERNATIONAL LAW BY TRANSPORTING TOXIC AND HAZARDOUS WASTES TO ALASKA;
- 2) FAILURE OF ALYESKA TO MAINTAIN A STATE-OF-THE-ART BWT FACILITY AND TERMINAL;
- 3) FAILURE OF EPA TO UPHOLD THE CLEAN WATER ACT AND PROVIDE OVERSIGHT OF ALYESKA;
- 4) FAILURE OF DEC TO UPHOLD THE STATE'S WATER QUALITY STANDARDS BY ALLOWING A MIXING ZONE FOR CARCINOGENIC COMPOUNDS; AND
- 5) FAILURE OF THE USCG TO INVESTIGATE AND PROSECUTE POLLUTERS AS REQUIRED UNDER U.S. AND INTERNATIONAL LAW.

IN CONCLUSION, THERE ARE A GROWING NUMBER OF CITIZENS WHO ARE DEEPLY CONCERNED ABOUT THE CHRONIC POLLUTION OF PORT VALDEZ. TO MANY OF US, THIS SYMBOLIZES THE STATE'S INABILITY TO EFFECTIVELY REGULATE ITS LARGEST INDUSTRY.

IT WILL BE VERY DIFFICULT FOR THE OIL REFORM ALLIANCE TO SUPPORT FUTURE OIL AND GAS DEVELOPMENTS UNLESS THE STATE TAKES FORCEFUL STEPS TO MITIGATE FURTHER DAMAGE TO ... AND PROVES ITSELF A REGULATOR CAPABLE OF BALANCING RESPONSIBLE DEVELOPMENT WITH PUBLIC CONCERNS AND ENVIRONMENTAL PROTECTION.

SOONP

PRINCE WILM

THANK YOU FOR THE OPPORTUNITY TO TESTIFY.

Dow Chemical/UpJohn plant, New Haven, CT

The Dow Chemical/UpJohn plant in New Haven, CT, uses a biological treatment system with off gas capture. The plant processes oil as well as other chemicals. The off gas capture system is used primarily to remove volatile hydrocarbons - BEIX - from the air. The biological treatment system is COVERED, unlike at Alyeska, by an inflatable building. The air is recirculated; contaminated air is drawn off through a carbon adsorption system. The ultimate aim, according to company representatives at the plant, is to install stripping towers (with off gas capture) to reduce the BEIX in the effluent to acceptable levels.

The impound basin for the biological treatment system at the Dow Chemical/UpJohn facility covers a two acre site. Wastewater flows through the impound basin at a rate of 400 ppm (compared to Alyeska's maximum rate of 20,000 ppm). Sludge collects at the bottom of the basin and is removed DAILY. The sludge is then encased in concrete for permanent burial.

Operations at the Dow Chemical/UpJohn plant bring several important concerns to light. First, when a biological treatment system is utilized as BAT in other areas, the plant simultaneously utilizes an off gas capture system so that BEIX are not merely transferred from the water into the air but are, in fact, removed and destroyed. Second, stripping towers with off gas capture are also considered BAT and could be relatively inexpensively and easily installed at Alyeska. Third, where is the sludge at Alyeska? In the Lower 48, sludge is handled with extreme caution to ensure that these compounds are destroyed (sludge incinerators) or permanently removed (burial). The U.S. Navy operates oily wastewater treatment facilities at all major shore installations; their dissolved air flotation cells generate up to 100,000 gallons per day of sludge (Karr & Lysyj - see attachments). Yet Alyeska claims to be doing the impossible: operating an oily wastewater treatment system that does not generate sludge.

Stripping towers with off gas capture have been the subject of several recent memorandums between the Cordova District Fishermen United (CDFU) and Charles Hamel and the parent owner companies (see attachments). The CDFU and Hamel suggested stripping towers as a viable technology that would enable Alyeska to meet the state's air and water quality standards. Alyeska rejected this technology because of the complications involved with pumping the water in the impound basins up to the level of the stripping tower. However, Alyeska completely overlooked the fact

that the physical differences in height between the dissolved air flotation cells and the impound basins would enable the stripping towers to be operated by gravity, not pumps.

It is time to have an independent engineering firm audit the entire terminal and offer an opinion. In addition to Alyeska's, as to what technology is needed by the terminal to meet the proposed NPDES permit requirements. Similar problems have been addressed by citizens and communities concerned with air and water quality issues in the Lower 48.

Santa Barbara County

The Energy Division of the Santa Barbara County Resources Management Department operate two monitoring programs with 100% cost offset provided by the oil companies which drill in the Santa Barbara Channel. The Environmental Quality Assurance Program is designed to monitor the oil companies during construction phases to ensure that the companies do the things they said they would do. The Permit Compliance Program is designed to monitor the oil companies during the construction and operation phases to ensure the facilities are meeting the appropriate standards. In both programs, the County contracts and pays expert consultants to oversee the oil companies. The County is then reimbursed by the oil companies each month. Three months worth of contract fees are held in bond in case the oil industry's payments are delayed. If the oil industry does not pay the County for three months and the bond money is utilized, the County is empowered to shut down the oil companies.

In addition, the Santa Barbara County permits are written with "reopener clauses." These clauses list specific conditions which, if not met by the oil industry, will automatically trigger reopening of the permit instead of having to wait for the permit to expire. The importance of including reopener clauses in both the EPA NPDES permit and the state's 401 certification for Alyeska should not be underestimated.

Tosco refinery, San Francisco, CA

This refinery has a policy of zero tanker emissions during liting (loading of oil). The vapors are collected and sent to the shore-based vapor recovery system. The Air Quality Management Division of Los Angeles County is currently writing regulations similar to those for the Tosco refinery.

011 9-91 NOV 22:59 Charles Homer
Alyeska Pipeline Service Company
Valdez, Alaska

Report Re: Review of Subpoenaed Records

By: Robert J. Athmann

File Reference: TSCA Subpoena No. 1086-07-21-2610
Region 10 Water Division NPDES Permit Files
Region 10 Water Division Compliance Section Files
State of Alaska Public Utilities Commission
Alaska Dept. of Environmental Conservation - Valdez
Report of Investigation dated 4/14/87 by Robert J. Athmann
An evaluation of ship deballasting and shore facility
ballast water treatment records at the Alyeska Pipeline
Service Co.

Scope:

This report sets forth the results of reviewing the copies of documents obtained from Alyeska Pipeline Service Company pursuant to TSCA subpoena during the period 2/18/87 through 4/24/87 at Valdez and Anchorage. Substantive material located in the files referenced above is summarized in this report and is used throughout to augment specific information extracted from Alyeska records. Statements made to EPA personnel during previous investigation of Alyeska's ballast water treatment plant and allegations about the company's operational and reporting practices have been incorporated as the basis for this review of Alyeska's records to determine if substantiation of those allegations exist in documentary form.

Table of Contents:

- I. Background
- II. Synopsis
- III. Details
 - III-1 Flow Monitoring Meters
 - III-2 Volume of Discharge
 - III-3 Settling Time
 - III-4 Toxic or Hazardous Material in Ballast
 - III-5 Disposal of Toxic and Hazardous Substances
 - III-6 Recycling of Sludge and Sediment
 - III-7 Oil Spills
 - III-8 Sampling and Analytical Procedures

IV. Individuals Interviewed and Referenced

V. List of Records Reviewed

Investigator: Robert J. Ittner Date: 11/23/87
Supervisor: Paul A. Soyars Date: 11/24/87

III 4 Allegations were made by Blake, Hoodle, and ~~REDACTED~~ that incoming tankers were bringing material to Valdez other than AIS crude oil and water and discharging it to the BHT, and according to Erlene Blake, dilution of suspect or bad ballast water had occurred frequently.

BHT Operator's Daily log entry dated 6/6/82, P. 199, at 0100 hours bears a BHT technicians note that water from the Stuyvesant "... appears to have had some foam in it at sometime or another... might cause the G&O to be ... higher than normal." No entries were found indicating the source of the foam or its effect was even determined. The Stuyvesant had completed deballasting into tank 93 at 0925 hours on 6/5/82. Tank 93 charging to the DAF system was begun at 1930 hours, 6/5/82 and was completed at 1730 hours on 6/6/82. According to the Grease and Oil log, the G&O test results for 6/6/82 was 8.7 mg/l.

BHT Operator's Daily log dated 7/4/82, P. 275, bore a technician's note that, "... the Stuyvesant has approximately 14,000 barrels of an unknown substance that they will discharge ashore with there (sic) ballast. (Might be some sort of chemical - i.e. caustic) (pH in sample taken was 6.30 - OK)." The note indicates an order was given that samples were to be obtained and stored indefinitely. No record could be found regarding test results on those samples. The grease and oil test results for that day as recorded in the Grease and Oil log was 2.8 mg/l. The Daily Lab Work Sheets, Daily Lab Test Results, and Monthly Summaries for 1982 were not provided by Alyeska for review pursuant to the ISCA subpoena. According to Tonne Ponto, legal aid at Alyeska, those records could not be located. During the interview on 2/23/87, Larry Shier stated that he conducted an investigation of the incident in 1985 and was not able to determine whether samples had been taken or that any tests had been conducted on the Stuyvesant's ballast water. Entries in the Marine log dated 7/3/82, P. 256, and 10/5/82, P. 60, indicate samples of the Stuyvesant's ballast were taken with instructions to test for anything unusual. A BHT Task Force list of action items dated 2/28/86 indicates an assignment to Larry Shier and Ivan Henman to investigate Stuyvesant allegations.

On 2/18/87 Daniel Lawn, Alaska Dept. of Environmental Conservation, Valdez, Alaska, provided copies of Oil Record Book for Ship's regarding the tanker Kenal for the period 6/26/85 through 7/5/85 and 9/23/85 through 9/26/85 which bear entries that the T/V Kenal received on 7/01/85 "... contaminated ballast/slop from barge "Anax 25" and on 9/26/85, "... loaded 6600 bbls of slop from tanker Atigan Pass via barge Phoenix 120 into port slop tanks." The loading and deballasting log shows the Kenal arrived at Valdez on 7/7/1985 with 68,249 barrels of ballast. During the review of records at Alyeska's offices in Anchorage during the period, 2/3/87 - 3/13/87 the Berth Operator's logs for the time span 1/16/85 - 9/7/85 for Berth #4 were reviewed. No entry could be found regarding the contents of the ballast tanks of the tanker, Kenal.

The Daily Pass-on log - laboratory, dated 7/1/85, p. 43, bears an entry to the effect that the lab had received some samples from some ship, not identified, which was so bad it almost made them all ill. No indication was made as to any identification of the ship or the contents of the ballast. The BHT Operator's Daily log dated 6/30/85, p. 242, bears an entry at 0740 hours about a very strong unusual chemical smell especially in the flotation building and that samples were taken. Water from tank 94 was being charged to the DAF system at the time. Ships deballasting

-11-

to tank 94, were the Arco Juneau, Overseas Juneau, and Texaco Florida. The Loading and Deballasting logs indicate the source of ballast for those vessels respectively were Cherry Point, San Francisco, and Tacoma. According to the Daily Lab Work Sheets and Monthly Summaries, test results for 6/30/85 and 7/1/85 were not unusual with pH at 6.4 on 6/30 and at 6.4 on 7/1. Oil and grease was recorded as 4.0 on 6/30 and 3.0 on 7/1. No other test results are indicated.

BHT Operator's Daily log dated 5/28/85, p. 172 bears the entry indicating that ballast water being charged out of tank 94 looked "ugly" so ballast from tankers Mobil Meridian and Admiralty Bay were being added to tank 94 in hopes of diluting it. According to the log, the ballast water in tank 94 came from the tankers Arco Juneau and Arco Alaska. The Daily Lab Work Sheet from 5/28/85 shows grease and oil composite test results at 7.6 mg/l.

Marine log dated 3/8/82, p. 54 bears an entry to the effect that the ballast from B.T. San Diego had high hydrogen sulfide content and treatment consisted of the use of hydrogen peroxide and diluting with ballast from the Mobil Arctic. According to the BHT Operator's Daily log dated 3/8/82, p. 226, an entry at 0645 hours indicates that the BHT stopped charging out of tank 92 due to high sulfides, 10 ppm, and switched deballasting from two other vessels, the Arco Saginaw River, and American Sun to tank 92 as well as adding peroxide. The Bay Tanker San Diego had been the source of the ballast.

Marine log dated 9/10/81, p. 202, bears an entry indicating that the tanker Sohlo Resolute arrived at Valdez after coming out of a shipyard where its ballast had been put ashore and returned to the ship after repairs were completed. According to the BHT Operator's Daily log entries for the period 9/10/81 through 9/12/81, the Sohlo Resolute had discharged its ballast into tank 94 and personnel from Sohlo were at Valdez conducting tests.

Marine log dated 7/8/82, p. 274, bears an entry indicating that Marine operators found, during an inspection prior to deballasting, that the tanker Thompson Pass had 3,400 barrels of slop on board from a bunker barge in Long Beach. The entry states the slops were not unloaded per instructions from BHT.

Marine log dated 10/18/84, p. 103 bears an entry indicating the tanker Keystone Canyon had approximately 12,000 barrels of slop from a barge in California, contents unknown. Instructions were to keep a 90 tank empty to receive this ballast. According to the BHT Operator's Daily log dated 10/19/84 an entry at 1530 hours indicates a technician took pre-deballasting samples from the tanker, which deballasted into tank 93. No record could be found regarding the samples of ballast from the Keystone Canyon. The Loading and Deballasting log shows that the ballast source for this vessel was Los Angeles.

BHT Operator's Daily log dated 5/17/84, p. 259 bears an entry at 0955 hours that ballast from the tanker Manhattan caused foamy water in the DAF system and that the tanker had just come from dry dock where it was painted. A high grease and oil was expected and on p. 262 an entry

**STATEMENT BY
BILL LAMOREAUX
CONCERNING
ALYESKA PIPELINE SERVICE COMPANY
BEFORE THE
SENATE TRANSPORTATION AND
OIL & GAS COMMITTEES**

My name is Bill Lamoreaux. Currently I am the District Manager for the Anchorage District Office of the Department of Environmental Conservation. I have worked for the Department since June of 1981, initially as the District Office Coordinator in Anchorage, then as Regional Supervisor for the Southcentral Regional Office until January 1991. Prior to my working for the department, I worked nearly ten years for the U.S. Environmental Protection Agency in Anchorage as an Environmental Engineer. I have a Bachelor of Science degree in Civil Engineering and a Master of Science degree in Environmental Engineering from San Jose State College in California. I have been licensed in Alaska as a Civil Engineer since about 1976.

Since commencing operations in August of 1977, Alyeska Pipeline has operated under three federally issued and state certified NPDES permits. The first permit was effective January 30, 1975 and expired on December 1, 1979. This permit regulated total oil and grease discharges for the ballast water treatment system and provided for a reasonably small mixing zone in Port Valdez in which to achieve the state Water Quality Standard (WQS) of 0.15 milligrams per liter (mg/l) total hydrocarbons. At this time, the state did not have a water quality standard for aromatic hydrocarbons.

The second permit's effective date was September 12, 1980 and expired June 1, 1983. This permit added limitations for total aromatic hydrocarbon discharges through limits imposed on benzene, toluene, and xylenes (BTX). This was a departure from the first permit and was primarily the result of new state WQS which placed importance on aromatic hydrocarbons. Also, this permit allowed for a much enlarged mixing zone in which to achieve the new state Water Quality Standard of 0.10 mg/l total aromatic hydrocarbons in the receiving water.

From June 1983 until November 14, 1990 (the time of issuance of the third and most recent permit) Alyeska operated under the terms of the second permit as allowed by EPA regulations. During this time, extensive reviews and evaluations were ongoing concerning the operations of the ballast water treatment plant and its potential impacts on Port Valdez as well as an investigation of numerous complaints of improper practices at the facility and by the tanker operators. I will summarize these issues shortly.

At the time of the development of the first and second permits, I worked for the U. S. Environmental Protection Agency (EPA). My function was working on industrial NPDES permits and thus I was one of the principal engineers who developed the conditions placed in the first and second Alyeska permits. In June of 1981, I went to work for the Department of Environmental Conservation (ADEC) and in 1985 was promoted to Regional Supervisor in which capacity I remained until January 1991. In this capacity, I was responsible for the state certification of federal NPDES permits within the Southcentral Regional Office which included Valdez.

Since the commencement of activities at the Alyeska terminal in Valdez to the present, the department has dealt with a number of issues concerning the ballast water treatment plant. It would involve writing a book to fully discuss all of these issues in full detail. What I will try to accomplish here is to outline the more significant issues that have been handled relating to the operation of the ballast water treatment plant.

As stated earlier, the initial permit regulated total oil and grease as opposed to aromatic hydrocarbons. A mixing zone was provided in which the discharged treated water could mix before being required to meet the WQS for total hydrocarbons. Because of uncertainty by the agencies in the ability to meet these standards, a dispersion study was required as a permit condition as well as a number of long term biological and receiving water studies. The dye study, conducted by contractors working for Alyeska, verified that Alyeska could not meet the state's hydrocarbon standard while discharging at the permitted levels. Also, Alyeska experienced problems at the facility caused by hydrogen sulfide in the incoming ballast water which inhibits the plants ability to remove oil and grease. This resulted in numerous effluent violations during the term of the permit. The source of the problem was traced back to ballast water transferred onto TAPS vessels in Panama. Basically as I remember it, smaller ships coming from the Gulf of Mexico and passing through the Panama Canal off loaded ballast water onto a ship anchored off the coast of Panama. The smaller vessels would then pick up a load of Prudhoe Bay crude and return through the canal. The TAPS vessels would off load their oil cargo to this same offshore vessel and pick up ballast water which had originated from the smaller

vessels. For a number of reasons, this method of handling the ballast contributed to the formation of hydrogen sulfide bacteria which when introduced into the Alyeska facility, caused serious treatment problems. Pretreatment with hydrogen peroxide was ultimately used to solve this problem. Throughout this time, I do not recall anyone requiring that the practice of transferring ballast water should be discontinued.

As I stated earlier, the second permit issued to Alyeska shifted emphasis from total hydrocarbons to the more toxic component of aromatic hydrocarbons. Both research work sponsored by EPA and the new state Water Quality Standards for total aromatic hydrocarbons resulted in effluent limits of 6 mg/l and 9 mg/l average and maximum respectively for BTX. These limits were generally being achieved in the effluent by Alyeska at that time based on work conducted by Ihor Lysyj but could not be achieved at the boundaries of the original mixing zone specified in the first permit. For a number of reason, the Department of Environmental Conservation selected to redefine a new expanded mixing zone in which to meet the new standard. Again, Alyeska was required as a permit condition to conduct mixing zone verification studies to determine compliance with the WQS. Additionally, other long term biological, sediment, and receiving water studies were continued.

This permit had an additional requirement in it to conduct a study of the advanced treatment alternatives which might be used to define Best Available Treatment. This level of treatment was suppose to be achieved by all industrial dischargers by 1983 and EPA recognized that they were not going to be able to promulgate national guidelines for this

class of industry by this time.

Without going into a lot of detail, neither the EPA or ADEC were impressed with the mixing zone study, other receiving water studies, or the treatment alternatives studies. For example, even though the raw data for the mixing zone study showed clear violations of the states standard for aromatic hydrocarbons at the boundary of the expanded mixing zone, the summary and conclusions of the report stated that state standards were achieved. The treatment alternative studies failed to thoroughly explore treatment alternatives which would result in BETX reductions in the mid ranges such as 50%. What was studied was the cost associated with nearly a complete removal of BETX which resulted in exceptionally high cost figures. It was the agencies concerns with these industry sponsored studies and other onsite observations made of the facility that set the stage for the extensive review process which commenced in the early 1980's.

At the time of the expiration of the second NPDES permit, the EPA was faced with a very real fiscal shortfall which prevented the agency from immediately initiating a permit review. As a result, the expired permit was allowed to continue in force until the agency could take up the Alyeska issue. The state likewise allowed the old permit to continue in effect while awaiting action by EPA.

Even with these monetary constraints, both the EPA and ADEC began to identify a number of concerns with the operations of the ballast water facility and its possible impacts on Port Valdez. Many of the concerns originated from our review of reports,

studies, and staff observations of the operations of the terminal. Others were issues brought to our attention by other individuals outside the two agencies. Following is a list of some of these issues:

- 1) Was sludge being removed from the wastewater, or instead being discharged into the harbor? What is the composition of the sludge accumulating in the plant? Are the effluent limitations being met?
- 2) Were hazardous substances, or other harmful wastes, being discharged into the BWT plant and passing into the harbor with the treated effluent?
- 3) Have there been spills associated with the treatment facility that were not reported or under-reported?
- 4) Were records, reports, or monitoring results falsified or juggled in order to present satisfactory figures to regulatory agencies? Did the sampling procedures used bias the results?
- 5) Had violations of the NPDES permit occurred? Specifically, had modifications of the treatment plant gone unreported, was the plant being operated efficiently, or were removed wastes being re-introduced into the treatment plant and ultimately discharged into the harbor?

6) Had the plant operator or associated contractors maintained adequate safety precautions to protect workers.

7) Had the treatment plant undergone significant modifications without the required ADEC plan review and approval?

Many of these questions were multi facet. For example No. 4 above not only involved the effluent monitoring and reporting, it also included questions related to the ongoing research work being done in Port Valdez concerning water quality, mixing zone compliance, and biological studies. Questions such as whether Alyeska properly handled effluent samples to obtain accurate results were raised and examined and whether the scheduling of sampling was timed such to bias the results.

The two agencies initiated a review of these concerns with a twofold purpose. First was to determine if any of the identified problems were grievous enough to justify administrative or other legal action, and secondly to determine what criteria was appropriate for the next permit.

The departments activities concerning this review covered a period of time from 1983 until the present and involved technical personnel from Valdez, Anchorage, Wasilla, and Juneau plus several small contracts with noted experts. Probably the most intense review period occurred in 1985 and 86 when concerns raised by Mr. Charles Hamel received substantial media attention. By this time, we were well aware of most of the issues,

however Mr. Hamel did introduce a few new ones such as the possible dumping of drums of waste products into the ballast water treatment plant and the possible importation of ballast water containing other than Prudhoe Bay residues.

Following is a brief overview of the problems which were identified at the facility and actions taken to correct them:

1) Effluent sampling and handling procedures for BETX were incorrect and biasing the results downward. When corrections were made as requested by the agencies, Alyeska immediately had trouble meeting existing permit conditions. This situation lasted for many months and until other plant modifications were made to improve overall treatment of the ballast water. The newest permit now has specific criteria on correct quality assurance/quality control procedures to be followed in the collection, handling, and analysis of samples.

2) Waste materials other than ballast water such as drums of various products were dumped into areas which would find their way into the ballast treatment plant. Again, initial action taken by the agencies stopped such practices. The new permit now specifically specifies what is allowed to enter the ballast water treatment system. An in house "Best Management Practices Plan for the Valdez Ballast Water Treatment Facility" has been developed which specifically address what can and cannot be routed to the treatment plant.

3) It was determined that discharges from the ballast water treatment plant, even when within effluent permit limits, often violated the states WQS at the boundary of the mixing zone. The new permit has a reduced effluent limit for BETX which should assure that WQS are continuously maintained at the boundary of the mixing zone. This effluent limit is 1.3 mg/l and was determined by back calculating from the outer boundary of the mixing zone to the effluent pipe using actual dilutions measured in the field. This 1.3 mg/l limit is now also recognized by EPA as being the Best Available Treatment (BAT) level required of all industries.

4) Studies contracted by Alyeska as required by the permit and other studies presented to the agencies concerning treatment issues did not stand up to peer review. Besides conducting our own detailed analysis of the information at hand, ADEC pushed for the creation of the Technical Advisory Group (TAG) to review projects at various stages before completion and to offer technical opinions concerning the scope and purpose of the work, methods used and draft conclusions. The TAG is now officially recognized in the current permit.

5) It was concluded that on at least an infrequent basis, ballast water was received at the terminal that may have been contaminated with substances other than residues of Prudhoe Bay crude. As a result a condition was added to the new permit that provides for random sampling of incoming ballast water and a regular review of ship's records by Alyeska at the time of receiving ballast water.

Limitations on what kind of ballast or bilge waste that can be received in Valdez have been defined.

6) Our investigation verified that a major dismantling of the ballast water treatment plant had occurred and that the facility was not operated as originally planned. These modifications were never reported to the agencies and approval of the changes never received. As a result the new permit clarifies the obligations for written plan approval from ADEC for any modification to the plant. Further the drastically reduced effluent limit in the new permit now make it absolutely mandatory for Alyeska to operate the facility as effectively as possible.

The listing above is only a very brief and oversimplified summary of the issues that were dealt with from about 1983 to the present. The Department's ability to research out the allegations made by outside sources and to research the many issues recognized by our own technical staff in both Anchorage and Valdez, was controlled by the limited resources available. As ADEC's research intensified around 1985, it became necessary to divert personnel from other Department activities and functions to work on the Alyeska issues. The Department has invested many person-years of effort to thoroughly investigate the issues I have only roughly outlined.

The result of all this effort is a new substantially more comprehensive permit with controls and limitations which hopefully will prevent a reoccurrence of the problems of the past. What remains at this point in time, is adequate oversight by appropriate regulatory and

technically trained personnel to guarantee that the most efficient job of treatment is accomplished at the facility in the future and that any biological impacts identified in ongoing research studies are properly dealt with. I am encouraged by the changes I have seen at the facility and with a new attitude among the Alyeska staff. Had we had that same attitude in the late seventies and early eighties, I am sure many of the problems we have had to deal with would not have existed and the tremendous effort put out by the Department staff would not have been necessary.

In so far as enforcement, the two agencies jointly worked on orders to Alyeska during our investigations to correct activities at the facility and to collect needed information. Other potential actions such as civil actions for past violations were considered but never initiated. In the end, such enforcement was not necessary to achieve the level of compliance we now have.

Testimony of
Oscar E. Dickason, Ph.D.
Alyeska Pipeline Service Company

Before the
Senate Transportation Committee
and the
Senate Special Committee on Oil and Gas

April 9, 1991

Juneau, Alaska

My name is Gene Dickason and I am the Manager of Alyeska Pipeline Service Company's Environment Department. Alyeska appreciates the opportunity to testify before the Senate Transportation Committee and the Senate Special Committee on Oil and Gas on the Ballast Water Treatment (BWT) facility in Valdez. My testimony today will address charges that Alyeska has received and processed un-permitted substances at the Valdez BWT facility.

To begin, I would like to state that Alyeska is in full compliance with the terms and conditions of the NPDES permit granted by EPA and concurred upon by ADEC for the operation of the BWT facility at Valdez. If, by discussing the exact operations of our facility and the operations of the tankers unloading ballast at Valdez, we can generate confidence among you that our facility is operating in an environmentally responsible manner, then we will happily do so. It is in that light that I make the following remarks.

First, let me describe ballast water treatment generally. The facility at Valdez is designed to clean oily water from incoming tankers and terminal operations. Two processes are used to treat the oily water: mechanical oil/water separation techniques are used to recover oil from the oily water and biological treatment is used to remove dissolved hydrocarbons. Water from this system is then discharged into Port Valdez, as allowed by an NPDES permit for the facility. The new permit limits the amount of aromatic hydrocarbons (BETX) in the effluent to 1.3 ppm. Except for occasional exceedances, Alyeska has been meeting this standard for several years.

Before I discuss tanker operations and the BWT facility, I will provide a brief regulatory history of the BWT facility at Valdez.

It has been a policy of the United States to encourage the onshore disposal and processing of oily water from tank vessels since it became apparent that marine disposal of unprocessed ballast was environmentally unsound.

This policy was formalized with the passage of the Ports and Tanker Safety Act of 1978, the Prevention of Pollution from Ships Act of 1980 and the ratification of the International MARPOL Conventions in 1973 and 1978.

The United States and the State of Alaska implemented this policy by requiring in the original federal and state Right-of-Way Agreements that Alyeska build and operate a BWT facility at the Valdez Marine Terminal. Since that time Alyeska has received a series of three NPDES permits issued in 1975, 1980 and 1989 for the discharge of treated water into Port Valdez. The current permit was originally granted in June, 1989 and was slightly modified in November of last year.

The permit requires Alyeska to operate the BWT facility under a series of operating rules known as Best Management Practices Plan or BMPP. In concert with the permit, this series of procedures agreed to by Alyeska, EPA and DEC spells out the detailed processes Alyeska must undertake to correctly implement the NPDES permit. The BMPP associated with the current BWT NPDES permit for was approved in 1987 and has been amended from time to time since then.

The Issues

Recently charges have been made that tankers have collected toxic wastes from West Coast sources and "dumped" them into Alyeska's BWT facility. My response to these charges will take three parts. First I'll describe a bit of regulatory history of specific relevance to this case, then I'll discuss the four major areas of concern we have been working with EPA, ADEC and the tanker owners to resolve. Finally I'll summarize our BWT facility's excellent environmental record.

The issue of inappropriate discharge into the Valdez BWT facility is not new. In 1985 similar assertions were made regarding illegal use of Alyeska's terminal as an illicit dumping site for toxic substances. At that time the EPA investigated this allegation and in 1988 determined that "no additional enforcement action is appropriate at this time." The allegations "could not be substantiated or had already been addressed by EPA and

resolved by Alyeska." The State of Alaska also conducted an investigation into these charges and found no reason to take action against Alyeska. With a few exceptions, industry practices have remained constant since the time of that investigation.

Another aspect of the regulatory history of Port Valdez was its inclusion in 1988 on a list of toxic-affected waters. Port Valdez's inclusion was based on potential occasional violations of water quality criteria at certain depths and stations in September and October of 1985 when the water column was vertically stratified, meaning the effluent may not have been diluted to the degree desired prior to reaching the perimeter of the mixing zone. Despite the inclusion of Port Valdez in this list the DEC recently concluded that: violation of water quality criteria at the boundary of the permitted mixing zone does not necessarily mean that biological impairment is occurring in Port Valdez.

Since the 1985 study Alyeska has taken steps to further improve the BWT facility. In the fall of 1986 Alyeska installed a biological treatment unit at the BWT which reduced aromatic hydrocarbons in the effluent by 85%. Computer modelling indicates that while the BWT facility effluent is meeting new criteria it will not produce aromatic hydrocarbon concentrations that exceed state water quality standards at the edge of the mixing zone.

Alyeska and the Prince William Sound Tanker Association have made a good faith effort since the current allegations were made to cooperate with the EPA or ADEC to review and evaluate tanker operations that might affect the performance of the BWT system. As recently as March 8, 1991, we met with ADEC and EPA officials, at Alyeska's request, to explain tanker operations, and to identify questions that must be resolved in order for Alyeska to accommodate all reasonable tanker practices. The tenor of the meeting was constructive; the regulators were genuinely interested in learning about the tanker practices and resolving open issues.

To identify and characterize tanker operations that might affect BWT performance, Alyeska reviewed all 1484 Ballast Water Survey forms

submitted by tankers as part of their deballasting procedures since June 1989, when the current permit became effective.

Upon arrival at the Terminal, tanker captains submit their forms, which detail the types and quantities of ballast to be off-loaded. This type of documentation is required before any ballast are off-loaded. A copy of a submitted Ballast Water Survey Form is attached.

Of the 1484 forms, 71 indicated that ballast water was affected by something in addition to ANS crude oil originating on board the deballasting vessel. You will note that the attached form is one of the forms indicating anomalous ballast. Alyeska's summary of the 71 forms provided to the EPA and DEC is attached. As you can see the 71 incidents noted fall into four categories: 1) Transferred Ballast, 2) Cleaning Agents, 3) Prior Cargo Not ANS Crude and 4) Other Contaminants. Alyeska shared this information with the EPA and DEC to provide a basis for review and discussion of normal operations of tankers in the TAPS trade. A representative of the Prince William Sound Tanker Association attended the meeting to provide first-hand knowledge.

Transferred Ballast

Transfers of ballast water and tank washings from one vessel in the TAPS trade to another vessel bound for Valdez are fairly common and occur when vessels are going into dry dock, need to have a tank inspected or are leaving the TAPS trade on behalf of a particular owner or charterer.

Vessels are required to enter dry dock at least once every two and one-half years. Recently, the Coast Guard has requested that the six vessels in the TAPS trade in the 165,000 dwt class undergo semi-annual structural inspections. These activities require tanks to be washed, before entering a shipyard or other facility. The available facilities on the West Coast have a limited capacity to receive and treat tank washings and ballast. As a result, either the ballast may be stored on shore and then returned to vessel for its subsequent trip to Valdez or they are transferred to another north bound TAPS trade vessel for discharge to the BWT facility in Valdez.

The end result is the same. Ballast water from ANS trade vessels is treated at our BWT facility using procedures designed to recover and treat the oil in the water. While we are reviewing this issue with EPA and DEC, case by case prior approval will be required before Alyeska can receive "transferred ballast". Since February, Alyeska has had four requests for this approval. Alyeska will only seek approval if the transferred ballast comes from another vessel in the TAPS trade.

Cleaning Agents

In order to thoroughly clean a tank to make it safe under OSHA standards for human entry, cleaning agents are sometimes used. Our present permit allows Alyeska to accept crude tank washings from TAPS trade vessels containing petroleum-based cleaning agents, as ballast into our BWT system. We believe that petroleum based cleaning agents do not have a deleterious effect on our system and do not contain other harmful substances. We will be working with the EPA and DEC to develop a list of approved cleaning agents that are compatible with the BWT system.

Prior Cargo Not ANS Crude

As you can see from the attachment, during the last 20 months 40 vessels arrived in Valdez whose prior cargo was not ANS crude oil. We believe each of the prior petroleum cargoes was compatible with the BWT system and did not cause any problems for us in meeting our permit limits. A preliminary review of our BWT performance during that same period of time indicates that there was no correlation between these prior cargoes and system upsets.

The EPA and DEC agreed that our permit allows Alyeska to receive ballast contaminated with non-ANS crude prior cargoes and indicated that they knew of no reason that those cargoes should negatively affect our permit compliance.

Other Contaminants

It is inevitable that the operation of tankers will consume fuel and a variety of lubricants. Relatively small amounts of these petroleum products are captured in vessel bilges, along with water. Under existing regulations and operations, these waters may be discharged to the BWT facility, for oil recovery and treatment. Most of these used petroleum products, that are not dissolved in water, are retained on board, mixed with the tankers crude oil cargo and are ultimately transferred to a refinery. Discussions with the agencies will continue, in order to identify engine room practices and to verify that these sources of oily water do not impair the performance of the BWT facility. We are cooperating with the agencies in an attempt to resolve any concerns they may have.

Alyeska has never processed, to its knowledge, the materials generated by repairs or cleanings once a vessel is in dry dock, such as the settled solids removed by hand from the vessel tanks.

Alyeska is satisfied that these discussions will yield a better understanding of tanker practices by the regulatory agencies and allow Alyeska to fully accommodate the necessary operations of the tankers that carry ANS crude.

Environmental Studies of Port Valdez --

I would also like to briefly comment on the general issue of the environment in Port Valdez after almost 14 years of operation of the BWT facility. Port Valdez is probably the most carefully scrutinized marine environment in all Alaska, if not the world. The level of study and examination of the physical environment as well as the plant and animal communities has been as comprehensive as any done anywhere in the world for a facility such as this. These studies conclude that the marine life in Port Valdez appears not to have been adversely affected at all by the operation of the BWT facility.

As an example of the impacts of this project let me summarize a recent series of experiments required by our permits. An independent contractor attempted to find out what concentration of the actual BWT effluent would

be necessary to kill two of the most sensitive marine creatures naturally occurring in the area, coon-striped shrimp and pink salmon smolts. The idea was to place a group of each into water with increasing concentrations of effluent and judge their reactions. Remember that the effluent when released into Port Valdez is immediately diluted and significant concentrations never actually exist in the water column.

The results were that it was impossible to determine the acute toxicity as required by the Department of Environmental Conservation because of the high survival rates of the fish and shrimp in 100% BWT effluent. Given the high dilution rate of the effluent when it is discharged this demonstration of the effluent's relatively low toxicity should quell much of the controversy surrounding the BWT facility's impact on Port Valdez.

Another issue recently raised is "heavy metals." Critics imply that Port Valdez is being polluted with an unacceptable level of heavy metals discharged from the BWT facility. Heavy metals monitoring was required under previous BWT NPDES permits. Alyeska complied with the requirements, monitored the heavy metals levels in the effluent and notified EPA as required. However the level of heavy metals found in the effluent was so low that EPA eventually reduced the permit's metals monitoring requirement so that we only monitor for zinc, which is used for cathodic protection against corrosion in the vessels. Periodic testing since then has failed to show significant quantities of heavy metals.

It has also been asserted that the identification of trace amounts of hydrocarbons in the bottom sediments of Port Valdez indicates chronic pollution. This is wholly untrue and represents a fundamental misreading of the studies and reports written on this issue. Although trace amounts of hydrocarbons have been identified in the sediments of Port Valdez there has never been any evidence that these very small amounts negatively affect any element of the plant or animal life in Port Valdez. In their report titled: "Environmental Studies in Port Valdez, Alaska: 1989" Drs. Feder and Shaw, from UAF's Institute of Marine Science, found no evidence that marine terminal operations negatively affect the organisms in Port Valdez.

Procedural Changes

Alyeska has examined its BWT intake procedures in light of the recent concern with the issue of transferred ballast. While agency review is underway, Alyeska has agreed to take additional steps to assure EPA and DEC that unacceptable materials are not off-loaded to, or treated by, the BWT facility at Valdez. For the time being, Alyeska and the affected tanker owners have agreed to seek EPA approval on a case by case basis before discharging any ballast transferred from other vessels, or associated "washings", into the BWT facility at Valdez. A memorandum was sent to all tankers in the Valdez trade making them aware of the new procedures. A copy of that memorandum is attached for your review. These interim procedures will evolve as discussions with the EPA and DEC continue.

Additionally, Alyeska is obtaining from the tanker owners information about the contents of the cleaning agents used during periodic crude tank cleanings. We have no knowledge of cleaning agents being used other than those we are permitted to handle at the BWT, but we will gather additional information on this issue.

In conclusion I would like to emphasize four points made in these comments:

1. Alyeska has not violated the terms of the current NPDES permit for the BWT facility at Valdez.
2. The BWT facility is treating substances the facility was designed to treat; and that state and federal law require us to treat.
3. An elaborate legal and administrative system has been established to insure that vessel operators fully disclose the contents of any discharges into the BWT facility at Valdez, and

4. We are fully cooperating with the EPA and ADEC to learn even more about on-vessel operations that might affect the BWT facility and Port Valdez.

Alyeska appreciates the opportunity to present this information to the Committees. I would be pleased to provide further information on any of these issues.

Attachments:

- 1) February 1991 Valdez Marine Terminal Ballast Water Treatment Operations, History and Effects
- 2) Ballast Water Survey Form, Exxon Long Beach, 5/5/90
- 3) Summary of Ballast Water Survey Forms
- 4) Memorandum, March 4, 1991, Captain T.F. Plummer to Tank Vessels