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STATE OF ALASKA



POUCH V  
JUNEAU, ALASKA 99811  
(907) 485-4941

HOUSE SPECIAL COMMITTEE ON OIL AND GAS

MEMORANDUM

To: All Interested Persons  
From: Rep. Mike Davis, Chairman  
House Special Committee on Oil and Gas  
Date: March 20, 1986  
Re: Valdez Oil Terminal Facility Oversight Hearing

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The House Special Committee on Oil and Gas will conduct an oversight hearing regarding operations at Alyeska's Valdez Oil Terminal Facility at 4:00 p.m. on Thursday, April 3. The meeting will be held in Room 519 of the Capitol Building, and will be teleconferenced to the legislative information offices in Anchorage, Fairbanks and Valdez. Persons in other communities wishing to participate in the hearing may request, through my office, that additional teleconference connections be made for them.

Representatives from Alyeska, the Environmental Protection Agency, and the Alaska departments of Environmental Conservation, Labor and Law have been asked to participate in the hearing. Businessman Charles Hamel is also expected to participate by teleconference.

The main purpose of the hearing is to provide members of the House Special Committee on Oil and Gas with information regarding past and present problems associated with the water treatment plant at Alyeska's Valdez oil terminal, the status of state and federal investigations into operations at the facility, a description of state and federal compliance orders that have been issued to Alyeska, and the degree and timeliness with which the requirements of the compliance orders are being met.

Valdez Oil Terminal Facility Oversight Hearing - April 3

The purpose of the hearing is to provide members of the legislature with the following information regarding the oil terminal:

1. What operational problems have been associated with the terminal's water treatment plant since this facility came on-line in 1977?
2. To what extent have operational problems at the terminal's water treatment plant led to the uncontrolled release of toxic pollutants into Prince William Sound?
3. To what extent has the facility been operated in violation of its water-discharge permit?
4. Alyeska's oil spill contingency plan expired on Jan. 3. What is the current status of Alyeska's new oil contingency plan? What is Alyeska's degree of preparedness regarding the containment and cleanup of a major oil spill?
5. What hazardous chemicals have workers at the plant been exposed to, and what has been done to abate this threat to their health?
6. What is the present status of federal investigations into operations at the water treatment facility, including investigations by the Environmental Protection Agency, National Institute of Occupational Safety and Health, and the General Accounting Office? What actions are being taken by these agencies?
7. To what extent are investigations being directed toward Alyeska's alleged falsification of pollution tests, and toward the company having allegedly ignored internal documents that suggested correcting major operational deficiencies at the facility?
8. What is the present status of state investigations into operations at the water treatment facility? What actions are being taken by the Alaska Department of Environmental Conservation? What, if any, criminal charges are under consideration by the Department of Law?

J

TESTIMONY OF IVAN L. HENMAN

ALYESKA PIPELINE SERVICE COMPANY

House Special Committee on Oil and Gas  
April 3, 1986

Good afternoon. My name is Ivan Henman, and I am in charge of the Ballast Water Treatment Facility Task Force established by Alyeska Pipeline Service Company to address the concerns raised about that facility--which I shall refer to as the BWT facility. Prior to this assignment, I was head of the Engineering Department at Alyeska. Also, I was Pipeline Superintendent for Alyeska from 1982 to 1985 and Terminal Superintendent at our Marine Terminal in Valdez from 1980 to 1982.

I would also like to introduce Bob McCollom and Dr. Richard Wade. Bob McCollom is the Vice President and Manager of Woodward-Clyde's Alaska operation. Bob has been in charge of the testing and studies which have been undertaken in response to the EPA Compliance Order.

Woodward-Clyde Consultants is a national consulting firm with extensive expertise in wastewater management. Their professional support staff includes Ph.D. level engineers and scientists in wastewater management and water quality.

Doctor Richard Wade is Director of Risk Management Services for International Technology Corporation from San Francisco, California. Dr. Wade has been retained by Alyeska to evaluate our industrial hygiene program and to be sure that we remain in compliance with regulations.

We are here in response to your request for information about the Valdez BWT facility including the status of our response to various action items included in the Compliance Order and Amended Compliance Order issued by the Environmental Protection Agency.

The jurisdiction of EPA and Alaska Department of Environmental Conservation is based upon the legal requirement for a permit before treated ballast water can be discharged from the BWT facility. It is called a National Pollutant Discharge Elimination System Permit, or for short, an NPDES Permit. NPDES Permits set limits on the level of pollutants which may be discharged with treated water and require compliance with the state water quality criteria.

In view of the various allegations about our Terminal, the EPA and ADEC last November requested a number of studies of the BWT facility's operation. Alyeska and its consultants embarked upon these studies, including an analysis of every process of the facility to determine if we are discharging sludge into the bay. We have literally looked at the plant inside and out and have even employed under-water cameras inside the tanks.

Most of these studies have been completed; all of them soon will be. All requirements of the Compliance Order have been submitted on or before the dates they were due. Both EPA and ADEC have met with Alyeska at least monthly and they have been kept completely informed of all our efforts. Their advice, recommendations, and suggestions as to the contents of the studies has been very welcome and helpful.

All of these extensive studies demonstrate that there is no sludge being discharged into Port Valdez, that there is no detectable damage to the environment of Port Valdez and Prince William Sound resulting from the operation of the BWT facility, and that the facility has been operated in compliance with applicable health and safety standards.

A brief history of the BWT plant may help to put the various allegations and the results of our studies into their proper context. The BWT facility treats the oily seawater, called ballast, which is carried in tankers arriving at the Marine Terminal to load crude oil. The seawater is pumped into the vessels when they leave ports elsewhere to begin their journeys to Valdez; this is done to provide stability when the

tankers are sailing without cargoes of oil. This ballast water is carried in the vessel's oil cargo compartments when they are empty of oil. This water becomes mixed with small amounts of oil remaining in the tanks. When the tankers arrive at the Marine Terminal, the ballast water must be pumped out of the oil cargo tanks so that the vessels may be loaded with crude oil. It is pumped directly to the BWT facility which separates the oil from the ballast. It does this mainly through gravitation in three large settling tanks.

To more easily understand the BWT facility, it may be helpful to think in terms of a three-stage treatment plant:

- ° First, gravity separation of the oil, water, and a small amount of solids. This occurs in the gravity settling tanks.
- ° Second, a chemical and air injection system to further reduce the amount of oil in the water. This secondary treatment takes place in the dissolved air flotation or DAF chambers.
- ° Third, retention in large impound basins for final separation before the treated ballast water is discharged into the waters of Port Valdez.

Gravity separation means that at each of the three treatment stages, oil--being lighter--rises to the top, and water settles out at the bottom. There will also be an emulsion layer between the oil and water, and this layer is composed of oil, water, and some solids. In addition, during the separation process, heavier solids, such as sand, will settle to the bottoms of the tanks, and they may carry some of the oil with them. Our recent studies have confirmed that this accumulation is substantially less than one inch per year in each of the tanks. This slow buildup of solids in the tanks means the tanks need only be cleaned when they are entered for periodic maintenance--normally every four to five years. That, in a nutshell, is how our system operates.

We believe Alyeska has compiled a good record in operating its BWT facility under the NPDES Permit. Despite its good record, Alyeska has been accused of producing large quantities of sludge at the BWT facility and dumping it into Port Valdez. This simply is not true.

I think if you look closely at these allegations regarding sludge, you will find many of them are based on references to the oil-water emulsion in the settling tanks. However, this emulsion is pumped to the crude system and ultimately loaded in tankers. It is not discharged with the treated effluent.

There is another area of possible confusion. The seawater taken in by the tankers as ballast just naturally contains suspended particles of silt. Most of these particles remain suspended in the ballast water throughout the treatment process, just as they were suspended when picked up by the tankers. This naturally occurring material is called TSS for total suspended solids. There is nothing unusual about the presence of this TSS in the discharge effluent from the BWT plant. By way of comparison, the TSS in our treated effluent is 50 times less than the TSS in water flowing into Port Valdez naturally from the Lowe River during the summer time.

The fact remains, the only thing discharged from our BWT facility is the treated ballast water. The recovered crude oil and the oil-water emulsion are pumped to our crude oil system.

The Compliance Order and Amended Compliance Order issued by EPA found that Alyeska had violated its NPDES Permit because sludge that had been separated or removed from one unit of the system had been reintroduced into another unit. Alyeska disagreed with those findings and with EPA's right to issue the order. Nonetheless, Alyeska agreed to cooperate to the best of its ability to comply with the studies required by the Compliance Order. We have done that.

The studies have confirmed that there has been no significant accumulation of sludge in the ballast water treatment process units. Measurements have generally been in the range of one to two inches in the tank bottoms and DAF chambers. The studies also confirm that there is no discharge of sludge to Port Valdez. We have also conducted extensive testing of the sludge that has been removed from the system. These tests show conclusively that this material is not a hazardous waste as defined by government regulations. The agencies have been advised of our findings, and they have not disagreed.

I said Alyeska's record of BWT operation is good. As with any plant, however, there are times when operations are less than 100 percent perfect. For the months October, 1985 through February, 1986, the monthly average of lab test results for aromatic hydrocarbons (BTX) in our effluent has averaged about 6.5 parts per million--slightly higher than the six parts per million authorized by the permit. Both EPA and ADEC have been kept fully informed of these results. These results followed a change in Alyeska's procedures for preserving effluent samples. This change was made because of a recommendation which arose out of an internal audit. It was not a requirement imposed by the Compliance Order. Nevertheless, we will be working with the EPA and ADEC to resolve the issue.

Perhaps the most important fact to recognize is that the available scientific evidence, including preliminary data taken by the University of Alaska last fall, indicates that there has been no detectable damage to the environment of Port Valdez and Prince William Sound as a result of Alyeska's operation of the ballast water system.

As to the alleged health hazards associated with the operation of the facility and the handling of sludge, we have found that company policies and procedures provide for a safe work environment. We have conducted our own industrial hygiene inspections of the facility and also retained industrial hygiene consultants to inspect our facilities in 1981 and again in 1984. And there have been other inspections.

In 1985, the Alaska Department of Occupational Safety and Health conducted an inspection of the Terminal. DOSH found no violations of health and safety standards. Also, in 1985, another industrial hygiene inspection was conducted at the Terminal by our consultant, IT Corporation. Again, the Terminal was found to be operating in accordance with applicable health and safety standards.

And, in 1986 the National Institute of Occupational Safety and Health (NIOSH) visited the Terminal to investigate alleged health hazards. We have cooperated fully with the investigation. The NIOSH report has just been received by Alyeska. NIOSH concluded there were no chronic health effects from chemical exposures at the BWT and informed the Alaska Department of Labor that they contemplate no further medical studies.

We feel that we have an outstanding record in the safety and health protection of our employees. Nonetheless, we are increasing our monitoring efforts to assure that our existing industrial health procedures and policies are followed by all employees and contractor personnel.

We have responded to any and all concerns about occupational safety and health at the Terminal. And we continue to respond to suggestions for improvement in our operating procedures and to initiate such improvements ourselves to assure the safety and health of the persons employed there.

In conclusion, I think the facility at Valdez has been one of the most analyzed of its kind in the world. We have made the operation and all of our records available for inspection by the appropriate government agencies. We have consistently operated the BWT system in a good faith effort to achieve its maximum effectiveness in accordance with its design. We have been cooperating with the agencies and meeting the requirements of the Compliance Order. We believe we have operated the facility in a manner to protect our employees, contractors, and the marine environment of Port Valdez and Prince William Sound. Thank you.



RECEIVED

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OFFICE OF THE COMMISSIONER

Centers for Disease Control  
National Institute for  
Occupational Safety & Health  
Robert A. Taft Laboratories  
4676 Columbia Parkway  
Cincinnati OH 45226-1998

March 26, 1986  
HETA 86-132

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Annette S. Thorn, M.D., M.P.H.  
Medical Director of Occupational Health  
Alaska Department of Labor  
P.O. Box 1149  
Juneau, Alaska 99802

Dear Dr. Thorn:

I would like to report the findings of my investigations among workers at the Ballast Water Treatment Facility (BWT) at Alyeska Pipeline Service Company's marine terminal in Valdez, Alaska. You had requested a NIOSH investigation because of reports of health problems among contract laborers who performed such jobs as cleaning tanks, dissolved air flotation (DAF) cells, basins, and ponds, and because of workers' concerns about potential health effects resulting from exposure to organic vapors and sludge during this work.

According to the business manager for the Construction and General Laborers Union -- Local 341, about 75 union members have worked at the BWT. An estimated 40 have had more than minimal contact with sludge, and an estimated 15-20 of these had heavy exposure or health complaints. I interviewed a sample of 10 of these workers, 7 in Anchorage and 3 in Valdez..

During our walk-through inspection of the BWT, I interviewed 13 employees. These included eight maintenance employees and five others (operators and oil spill and marine technicians). I also interviewed by telephone one maintenance worker from a different shift who, I had been told, had health complaints.

Five of the eight maintenance workers at the plant (and the one interviewed by phone) reported headache, dizziness, or nausea sometimes when working around the DAF cells without a respirator. These symptoms typically resolved within two hours, sometimes within minutes, after leaving the area or putting on a respirator. One worker reported symptoms lasting 1-1/2 days after performing work (not his usual job) in the DAF area. Another worker reported a rash after contact with oil in the past, but had no current problem.

There was agreement among Alyeska employees that protective clothing and respirators were readily available, whether or not specifically required for a particular job. There was also general agreement that work involving the most

contact with sludge was done by contractors. Some Alyeska employees observed contract laborers using the same protective gear as Alyeska employees, but others said that this was not always the case.

The contract laborers reported acute irritative, respiratory, and other symptoms. They also reported a variety of chronic respiratory, dermatologic, neurologic, and other problems. Many reported that protective equipment was not readily available, that it was not in good condition, or that it was provided without adequate instruction in its use.

In summary, Alyeska maintenance workers reported self-limited symptoms associated with work in the DAF area without a respirator. Such symptoms are consistent with exposures to volatile organic compounds known to be present in the area. Although measured exposures have been within current Alaska Department of Labor standards, at levels that would not be expected to produce acute symptoms, exposure concentrations averaged over the duration of the job (rather than over the full shift) have not been determined for specific maintenance jobs. Furthermore, symptoms can occur even when air concentrations of individual substances are below their OSHA permissible exposure limits, especially when there is exposure to a combination of substances.

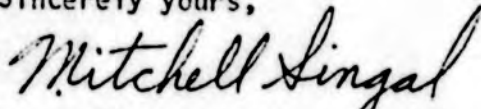
Except for their severity, the acute symptoms reported by contract laborers were comparable to those reported by Alyeska employees and were consistent with unprotected exposure to substances present in the BWT. We could not answer the question of whether unprotected or inadequately protected exposure was as common in the past as claimed by the laborers. Even if there were heavy exposures in the past, however, the reported chronic health problems, in my opinion, were sufficiently varied that they did not suggest a pattern of association with exposures at the BWT. (This does not rule out the possibility that there may be individual cases of health problems related to past exposures at the BWT, but evaluation of such cases on an individual basis is beyond the scope of a NIOSH investigation.) Given the lack of an identified chronic health effect characteristic of potential chemical exposures at the BWT, the relatively small group of workers with substantial exposure to sludge or other substances, the sporadic occurrence of such exposures, and potential exposures from other jobs over the years, I do not think that further epidemiologic investigation of past workers for chronic health effects attributable to exposures at the BWT would be productive.

On the basis of symptoms reported by Alyeska workers, \*some maintenance tasks in the DAF area appear to warrant routine use of respirators.\* Exposures associated with the various tasks should be monitored. Respirator usage can then be based on the exposure data.

Page 3 - Annette S. Thorn, M.D., M.P.H

Although no further medical or epidemiologic evaluation is contemplated, NIOSH plans to evaluate employee exposures during a tank cleaning operation, currently scheduled for April 1986.

Sincerely yours,



Mitchell Singal, M.D., M.P.H.  
Assistant Chief  
Medical Section  
Hazard Evaluations and Technical  
Assistance Branch  
Division of Surveillance, Hazard  
Evaluations, and Field Studies

cc:

Gary P. Bader  
Mano Frey  
Richard L. Wade  
Donald Whorton, M.D., M.P.H.  
Daniel Lawn  
John P. Middaugh, M.D.  
Don Praast  
Charles Hamel  
Allen Stayman

EPA STATUS REPORT ON  
ALYESKA PIPELINE SERVICE CO.  
VALDEZ, ALASKA  
BALLAST WATER TREATMENT PLANT

This ballast water treatment plant is located at the southern end of the Trans-Alaska Pipeline and is one of the world's largest such facilities. Oily wastewater from tanker ballasting is treated prior to discharge into Port of Valdez, a subarctic fjord. This facility has been under an EPA National Pollutant Discharge Elimination System (NPDES) permit since start-up in 1977.

During a routine annual compliance inspection in 1984, several questions were raised by EPA concerning the operation of the facility. A Clean Water Act, Section 308 "Request for Information" was issued in January 1985. A joint EPA/Alaska Department of Environmental Conservation (ADEC) follow-up compliance inspection was done in April, 1985.

Based upon the response to the Section 308 "Request for Information" and the April inspection, a Clean Water Act, Section 309 Order was issued on July 12, 1985, which required the company to stop reintroducing sludges into the ballast water treatment plant and to submit a plan describing the procedures that would be followed in removing and disposing of all sludges. Specifically, EPA found that "on numerous occasions agents and employees of the respondent removed sludges from one part of the BWT (i.e. retention ponds) and reintroduced those sludges into the wastewater (i.e. 90 tanks) being treated within the BWT, in violation of Part II.A.6. of the NPDES permit.

The major pollutants of concern to EPA in ballast water coming into the plant and their ranges are as follows:

<u>Pollutant</u>	<u>Typical Ballast Water Ranges</u>
Oil & Grease	10-40 mg/l
Total Suspended solids	20-150 mg/l
pH	6-9
Aromatic Hydrocarbons	1-10 mg/l

"BWT" refers to the ballast water treatment facility. The treatment process consists of gravity settling in one of three "90 tanks", followed by dissolved air floatation (DAF), transfer to a retention or impound basin, and discharge to Port Valdez. The "80 tanks" are a part of the oil recovery system. Oil skimmed from these tanks is transferred with crude oil from the Trans-Alaskan Pipeline onto tanker ships.

As a result of implementing a laboratory quality assurance program required by the Compliance Order, the Company has modified its laboratory procedures for testing for BTX. Prior to October 1985, BTX samples were not acidified at the time of collection to preserve the sample. Since October monthly average BTX values in the plant effluent have been in violation of the permit limits.

Receiving water monitoring and computer modeling of the effluent plume in Port Valdez appear to show that violations of State water quality standards have occurred at the boundary of the mixing zone. Further study is underway to confirm this.

Further EPA/ADEC sampling inspections were conducted in July and August 1985. Based upon these visits and the Agency determination that the Company's response to the original order provided essentially a continuation of existing practices, an amended Order was issued on November 6, 1985. This amendment set out 13 specific actions required of the company with related time schedules for progress toward compliance with the 309 Order schedule for each action. A joint EPA/ADEC/Alyeska work group has been established to monitor progress toward compliance with the 309 Order.

EPA is developing a new discharge permit for the facility. At this time we anticipate soliciting public comment on the draft permit in June 1986. This schedule is subject to review. After addressing comments received on the draft permit and the Alaska Department of Environmental Conservation's certification under Section 401, EPA will finalize and issue the permit.

EPA is committed to completing the evaluations required for reissuance of the permit in as timely a manner as possible. While a number of aspects of the permit development process can proceed independently from the enforcement investigation, EPA feels that certain aspects of the permit must be closely coordinated with the enforcement investigation. In the interim, the existing NPDES permit has been continued under the Administrative Procedures Act, and as such remains fully effective and enforceable.

Attachments to this summary include:

1. Table 1, Enforcement Actions taken by EPA
2. Table 2, Status of Actions Required of Alyeska Under Section 309 Compliance Order
3. July 12, 1985 Section 309 Compliance Order
4. November 6, 1985 Amendment to Section 309 Compliance Order

TABLE 1. ENFORCEMENT ACTIONS TAKEN BY EPA

Jan. 28, 1985	Issuance Date of a Section 308 Formal Request For Information No. 11084-12-04-308
April 5, 1985	Letter From Robert S. Burd To Alyeska Requiring Retention of All Records Presently in Possession or Control of the Company
July 12, 1985	Issuance Date of Section 309 Compliance Order No. 1085-07-35-309A
Nov. 6, 1985	Issuance Date of Amendment to Section 309 Compliance Order No. 1085-07-35-309A

TABLE 2. STATUS OF ACTIONS REQUIRED OF ALYESKA  
UNDER SECTION 309 COMPLIANCE ORDERS

March 20, 1986

Paragraph	Task	Due Date	Status
<u>309 ORDER NO. 0185-07-35-309A (7/12/85)</u>			
1	Cease reintroduction of sludge to treatment system.	Immediately.	See below.
2	Submit sludge handling plan.	9/15/85	Plan submitted on time. EPA's evaluation resulted in issuance of amended order.
<u>AMENDED 309 ORDER NO. 1085-07-35-309A (11/6/86)</u>			
	Consistent with the timeframes below, cease and desist reintroduction, resuspension, or re-entrainment of sludges into treatment plant.	See below.	See below.
10	Submit plan for transfer of wastewater from crude oil storage tanks to 90 tanks. Implement upon approval.	11/20/85	Plan submitted on time & implemented by Alyeska. Approved March 19, 1986.
11	Order equipment for continuous flow-weighted effluent sampling.	11/20/85	Completed on time.
5	Submit study of DAF flow velocity and plan for correcting any operational problems. Implement plan upon approval.	1/6/86	Plan submitted on time. Company notified that submittal was inadequate.
7	Submit study for treatment and disposal of DAF and impound basin "float". Implement upon approval.	1/6/86	Plan submitted on time. Under EPA/ADEC review.
6	Reinstall and operate originally designed equipment in DAF.	3/6/86	
OR			
	Submit plan for equivalent or better removal of sludges. Implement upon approval.	1/6/86	Plan submitted on time. Company notified that submittal was inadequate.

- |    |  |        |  |
|----|--|--------|--|
| 13 | Submit analytical quality assurance plan. Implement upon approval.   | 1/6/86 | Plan submitted on time. Approved by EPA 2/21/86. |
| 12 | Submit evaluation of placement and design of effluent sampling system and plan to install most effective system for collecting a representative sample. Implement upon approval. | 2/6/86 | Plan submitted and implemented by Alyeska.       |
| 11 | Install composite effluent sampler and commence operation.   | 2/6/86 | Installed 11/27/85. In operation 2/1/86.         |
| 8  | Submit operating plan for transferring only clarified wastewater from 80 to 90 tanks. Implement upon approval.   | 3/6/86 | Plan submitted on time. Under EPA/ADEC review.   |
| 2  | Submit study of settling characteristics of 90 tanks; determine settling time required for wastewater separation.  | 3/6/86 | Plan submitted on time. Under EPA/ADEC review.   |
| 3  | Submit plan to ensure only clarified wastewater is moved from 90 tanks to DAF unit. Implement upon approval.   | 3/6/86 | Plan submitted on time. Under EPA/ADEC review.   |
| 4  | Submit plan for routine removal of sludge from bottoms of 90 and 80 tanks. Implement upon approval.  | 5/6/86 |  |
| 9  | Submit plan for treatment and/or disposal of system-generated sludge. Implement upon approval.   | 5/6/86 |  |

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Region 10  
1200 Sixth Avenue  
Seattle, Washington 98101

IN THE MATTER OF:

Alyeska Pipeline Service Company  
1935 South Bragaw Street  
Anchorage, Alaska 99512  
NPDES Permit No. AK-002324-8

No. 1085-07-35-309A

COMPLIANCE ORDER

Pursuant to Section 309 of the Clean Water Act, 33 USC §1319, and the authority vested in the Administrator of the U.S. Environmental Protection Agency (EPA) which has been delegated to the EPA Regional Administrator, Region 10, the following FINDINGS OF FACT are made and COMPLIANCE ORDER issued.

FINDINGS OF FACT

1. Alyeska Pipeline Service Company (respondent) operates a ballast water treatment facility located near Valdez, Alaska. That facility discharges treated ballast water to Port Valdez.

1           2. Port Valdez is navigable waters of the United States as defined by  
2 Section 502(7) of the Act, 33 USC §1362(7), and 40 CFR §122.2.

3           3. Respondent was issued a National Pollutant Discharge Elimination  
4 System (NPDES) permit (the permit) with an effective date of September 10,  
5 1980, and an expiration date of June 1, 1983, authorizing the discharge of  
6 identified pollutants. Respondent submitted an application for reissuance of  
7 its permit on August 20, 1982. Hence, the provisions of the permit remain in  
8 effect under 40 CFR §122.6.

9           4. Part II.A.6. of the permit provides that "solids, sludges, filter  
10 backwash, or other pollutants removed from or resulting from treatment or  
11 control of wastewaters shall be disposed of in a manner to prevent any  
12 pollutant from such materials from entering navigable waters, except as  
13 limited in Part I.A."

14           5. Part II.A.6. of the permit means that once a pollutant (i.e., sludge,  
15 solids, etc.) has been removed from the influent to, or wastewater within, the  
16 Ballast Water Treatment Facility (BWT), that removed substance shall not be  
17 reintroduced, reinjected, or returned in any way to the influent or wastewater  
18 being treated by the BWT.

19           6. For the purposes of this ORDER and the permit, sludge is defined as  
20 everything, regardless of its viscosity or solids content, that is above and  
21 below the water phase except recoverable crude oil.

22           7. During the spring of 1983, approximately 500 gallons of sewage  
23 treatment sludges were pumped into the oily water recovery system of  
24 respondent's ballast water treatment plant, which is in violation of Part  
25 II.A.6. of the permit.



SANCTIONS

1  
2  
3 Notice is hereby given that violation of, or failure to comply with, any  
4 of the provisions of the foregoing ORDER shall subject respondent to civil  
5 penalties pursuant to Section 309(d) of the Act, 33 USC §1319(d).

6 Nothing in this ORDER shall be construed to relieve respondent of any  
7 obligations under any applicable federal, state, or local law.

8  
9 Dated this 12<sup>th</sup> day of July, 1985.

10  
11   
12 Ernesta B. Barnes  
13 Regional Administrator

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Region 10  
1200 Sixth Avenue  
Seattle, Washington 98101

IN THE MATTER OF:

Alyeska Pipeline Service Company  
1835 South Bragaw Street  
Anchorage, Alaska 99512

NPDES Permit No. AK-002324-8

)  
Amendment to Compliance Order  
No. 1085-07-35-309A

Pursuant to Section 309 of the Clean Water Act (the Act), 33 USC §1319, and the authority thereunder of the Administrator of the U.S. Environmental Protection Agency (EPA), which authority has been duly delegated to the EPA Regional Administrator, Region 10, the following FINDINGS OF FACT are made and Amendment to above ORDER issued.

FINDINGS OF FACT

1. Pursuant to the Findings of Fact set out in ORDER No. 1085-07-35-309A issued to Alyeska Pipeline Service Company (respondent) this Amendment hereby supplements the provisions of said ORDER as follows:

ORDER

1  
2 Based on the foregoing Findings of Fact (those more specifically set out  
3 in Order No. 1085-07-35-309A), and pursuant to Section 309 of the Clean Water  
4 Act, 33 USC §1319, it is hereby ORDERED as follows:

5  
6 1. Consistent with the timeframes specified in provisions 2 through 10  
7 of this amended ORDER (the ORDER), respondent shall cease and desist the  
8 reintroduction, resuspension, or re-entrainment of sludges into the ballast  
9 water treatment facility (BWT) or any part, stream, or segment thereof, or any  
10 stream flowing therefrom.

11 2. Within four (4) months of the date of the ORDER, respondent shall  
12 submit the results of a study which determines with reasonable accuracy the  
13 settling time required for effective separation of floating oil and suspended  
14 solids from wastewater in the 90 tanks. This study shall, at a minimum,  
15 include settling tests and chemical analyses of the effluent from the  
16 90 tanks, and effectively profile the contents of the 90 tanks during typical  
17 settling periods. In addition, settling tests and chemical analyses shall be  
18 conducted on representative samples of the influent to the 90's tank.

19 3. Within four (4) months of the date of the ORDER, respondent shall  
20 submit an appropriate and comprehensive plan to ensure that only clarified  
21 wastewater is moved from the 90 tanks to the Dissolved Air Flotation (DAF)  
22 unit of the BWT. Upon approval by EPA, respondent shall immediately implement  
23 this plan.

24 4. Within six (6) months of the date of the ORDER, respondent shall  
25 submit an appropriate and comprehensive plan and schedule, based on the rate of  
26 sludge production, for regular and routine removal of sludge from the bottoms  
27 of the 90 tanks and the 90 tanks. Upon approval by EPA, respondent shall  
28 immediately commence sludge removal in accordance with the approved plan and  
schedule. Paragraphs 2, 3, and 4 can be addressed together in a single report.

1. 5. Within two (2) months of the date of the ORDER, respondent shall  
2 submit the results of a study which effectively evaluates the flow velocity  
3 configuration in the DAF cells and compares that flow velocity configuration  
4 with design criteria for such cells. Where short circuiting or other  
5 factors which may contribute to the inefficient operation of the cells are  
6 identified, respondent shall submit with the study results, a plan for  
7 correcting such operational problems. Upon approval by EPA, the corrective  
8 action plan shall be implemented immediately.

9 6. Within four (4) months of the date of the ORDER, respondent shall  
10 reinstall and operate the surface and bottom scrapers of the DAF unit as  
11 originally designed. As an alternative, Alyeska may, within two (2) months,  
12 submit a plan for the design, installation, and operation of an alternative  
13 system which provides equivalent or better removal efficiencies of surface  
14 and bottom sludges than the originally designed DAF system. Whichever  
15 system is chosen shall effectively remove sludge from the DAF system. Upon  
16 approval by EPA, the alternative corrective action plan shall be implemented  
17 immediately.

18 7. Within two (2) months of the date of the ORDER, respondent shall  
19 submit an appropriate and comprehensive plan for treatment and disposal of  
20 the DAF and impound basin "float". Upon approval by EPA, respondent shall  
21 immediately implement such plan. This plan may include a technical  
22 evaluation of the feasibility of breaking the emulsion by introducing the  
23 DAF and impound basin "float" into the oil layer of the 80 tanks.

24 8. Within four (4) months of the date of the ORDER, respondent shall  
25 submit an operating procedure that ensures the transfer of only clarified  
26 wastewater from the 80 tanks to the 90 tanks. Upon approval by EPA,  
27 respondent shall immediately implement the procedure.

28 Amendment to Compliance ORDER - Page 3 Of 6

1 9. Within six (6) months of the date of the ORDER, respondent shall  
2 submit the results of an engineering study which analyzes and selects an  
3 appropriate and comprehensive plan for treatment and/or disposal of  
4 system-generated sludge. Upon approval by EPA, respondent shall immediately  
5 implement the plan.

6 10. Within two (2) weeks of the date of the ORDER, respondent shall  
7 submit a plan describing all procedures to be followed to ensure that only  
8 separated water and not sludge or oil/water emulsions are transferred to the  
9 90 tanks from any of the crude oil storage tanks. Upon approval by EPA,  
10 respondent shall immediately implement the plan.

11 11. Within the shortest reasonable time, such time not to exceed three  
12 (3) months of the date of the ORDER, respondent shall install and operate a  
13 continuous flow-weighted effluent sampler for collection and analysis of  
14 composite samples for Total Suspended Solids (TSS) and Total Organic Carbon  
15 (TOC). The equipment necessary to comply with this provision shall be  
16 ordered within two (2) weeks of the date of the ORDER. The 24 hour  
17 composite samples shall be analyzed daily. Results of these analyses shall  
18 hereafter be submitted with the monthly discharge monitoring reports.

19 12. Within the shortest reasonable period of time, such time not to  
20 exceed three (3) months of the date of the ORDER, respondent shall submit an  
21 appropriate and comprehensive evaluation of the placement and design of the  
22 present effluent sampling system, an evaluation of alternative methods of  
23 collecting a representative effluent sample, identification of the most  
24 effective effluent sampling system, the basis of that choice, and a plan for  
25 installing such system. Upon approval by EPA, respondent shall immediately  
26 implement the plan to install and continuously operate the alternative  
27 effluent sampling system.  
28

1 13. Within two (2) months of the date of the ORDER, respondent shall  
2 submit a final quality assurance plan for all analytical methods to be  
3 employed by respondent or its agents or employees in sampling and analyzing  
4 waste streams or effluent from the BWT or any part thereof. Upon approval  
5 by EPA, respondent shall immediately implement the plan.

6 14. Copies of all study plans to collect information pursuant to this  
7 ORDER shall be submitted to EPA and ADEC as developed.

8 15. Should the various plans required in paragraphs 2 through 14 above  
9 not meet with the approval of EPA, the ORDER may be further amended to  
10 direct respondent to conduct specific actions by specific dates.

11 16. For the purposes of this document, the term "90 tank(s)" means  
12 tanks 92, 93, and 94. The term "80 tank(s)" means tanks 80 and 81. The  
13 term "float" means sludge that has separated from the waste stream by rising  
14 to the surface layers of the DAF unit or impound basins. The term "plan"  
15 includes, but is not limited to, design plans, modifications, proposed  
16 construction schedules, construction, and operation of new or existing  
17 equipment. The term "sludge" is defined in the original ORDER.

18 17. All of the requirements set out above that result in changes to the  
19 current BWT shall be continuously operated and maintained until the issuance  
20 of a new NPDES permit for the facility.

21 18. Submittals required by this Order shall be sent to:

22  
23 U.S. Environmental Protection Agency  
24 1200 Sixth Avenue  
25 Seattle, Washington 98101  
26 Attn: Water Compliance Section, M/S 513

27 and

28 Alaska Department of Environmental Conservation  
437 E Street  
Anchorage, Alaska 99501  
Attn: Bob Martin

1 Nothing in this Order shall relieve respondent from fully complying with  
2 all other requirements of NPDES permit No. AK-002324-8 and any applicable  
3 federal, state, or local law.  
4

5 SANCTIONS

6 Notice is hereby given that violation of, or failure to comply with, any  
7 of the provisions of the foregoing ORDER may subject respondent to civil  
8 penalties pursuant to Section 309(d) of the Act, 33 USC §1319(d).  
9

10 DATED this 6<sup>th</sup> day of NOVEMBER, 1985.  
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14   
15 ERNESTA B. BARNES  
16 Regional Administrator  
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# Sunday Business

Anchorage Daily News Sunday, February 2, 1986

## Alyeska's oil spill controls in question

### Agency reviews response plan

By PATTI EPLER  
Daily News business reporter

The company that runs the busy oil shipping terminal in Valdez may lack adequate equipment and trained personnel to contain anything effectively except the smallest oil spill, according to some state environmental officials and people who have worked for the company.

The state Department of Environmental Conservation is reviewing an oil spill contingency plan filed by Alyeska Pipeline Service Co., which operates the terminal and trans-Alaska pipeline for the eight oil companies that own the facilities. The plan expired Jan. 3 and must be re-certified by the state.

DEC is to meet with Alyeska this week to go over problems. Alyeska has told the state that some problems recently have been rectified, according to two DEC officials.

Concerns expressed by DEC field officers and others familiar with the company's clean-up plan include:

- Equipment is outdated, ill-suited for Prince William Sound and faulty because it has been allowed to deteriorate over the last several years.

- A lack of trained workers to run clean-up equipment. The company once had crews assigned solely to oil spill clean-up and equipment maintenance, but the crews were eliminated when Alyeska cutback on staff. Clean-up duties have been spread among other employees who have little training and other jobs to do.

- Inadequate inspection of oil tankers by state officials due to lack of money and manpower in the DEC Valdez office. By 1984, DEC's presence at Alyeska had dwindled to the point that one field officer was prompted to write in a memo to his supervisors in Anchorage, "We can no longer ignore the routine monitoring of Alyeska unless we do not care if a major catastrophic event occurs."

- A greater risk of oil spills because of an increased iceberg flow from the Columbia Glacier. More tankers also must anchor outside the terminal and wait for a spot at a berth to take on oil cargo, delaying response time if a spill occurs.

The Alyeska oil terminal is the largest facility of its kind in the nation and one of the largest in the world.

Each day the terminal loads aboard tankers about 1.7 million barrels of crude oil — nearly one-fifth of the nation's production.

Since the terminal started operations in 1977, there have been anywhere from a dozen to several dozen oil spills, depending on which agency is counting. All of the



Two tow floating booms through an oil slick in waters outside Alaska. So far, there have been no major spills at the Port of Valdez.

**“We can no longer ignore the routine monitoring of Alyeska unless we do not care if a major catastrophic event occurs.”**

— DEC field report

spills have been considered small.

But a few near disasters in the last eight years have sharpened the state's interest in ensuring that every possible oil spill can be handled.

DEC has been meeting with Alyeska to discuss problems that have become apparent to the state during mock spill drills, visits to the terminal and information supplied by employees. Alyeska also has raised issues of its own, said Paul O'Brien, DEC's oil spill program manager.

The two main concerns center on equipment and personnel — what type of equipment does Alyeska have, does it work, is it accessible and can people operate it, he said.

"Can the plan be executed in the field? That's really the bottom line for all contingency plans, whether it be Alyeska's or an exploratory

rig in the Beaufort Sea," O'Brien said. "You can have a great document sitting on the shelf, but can it be executed?"

Alyeska believes it can. "We consider that Alyeska's oil spill response plan is one of the best and most comprehensive of its kind, and, based on the record of successful responses under the plan, we feel its effectiveness has been demonstrated," said John Ratterman, a spokesman for the pipeline company.

He said Alyeska trains people for oil spill response, and drills are held periodically to test and enhance the equipment and skills of workers.

Ratterman declined to be more specific about the number of people now assigned to oil spill response compared with the past, or about what type of training is given and how often. He also

declined to address specific concerns about equipment.

He said Alyeska will meet with DEC again this week to answer some of its questions. "We do not feel it is appropriate to comment in any greater detail about our oil spill capability or about the meetings with the state while the state's review of the plan is continuing," he said.

The Coast Guard also thinks Alyeska has done a good job responding to spills at the terminal and in the port, said Coast Guard Lt. Cmdr. Robert Diaz of the marine safety office in Valdez.

He noted that the spills have been minor to date, and he said the company has the equipment and staff to respond at least initially to a larger spill. "It's hard to gauge without a large spill actually occurring," Diaz said.

"Alyeska is not just thrown to the wolves" in the event of a large spill, he said. Other clean-up groups and equipment from Alaska and the Lower 48 would be called in to help, he said.

But Alyeska is expected to handle the smaller spills and provide a first response to larger spills, said DEC's O'Brien.

O'Brien said he's sure Alyeska can get to a spill with the equipment it has.

But the state wants assurance the equipment will work and the people will know how to use it in light of concerns raised by DEC's own staff and problems evident during mock drills, he said.

The most recent drill monitored by the state was in September. Theresa Svancara, of DEC's Valdez office, reported that some workers were unfamiliar with equipment and didn't know how to do their assigned tasks. A list of people to be called in case more help was needed was outdated and useless, she said.

Some equipment did not work properly and Alyeska

was unwilling to test some procedures fully, Svancara wrote in a report of the drill. For example, she said, a hose to pump some of the "spilled oil" was not deployed fully because an Alyeska supervisor "said it would be too much work to roll it up again."

"This type of attitude is not conducive to testing equipment to learn if it will work in various spill situations," Svancara said.

"This spill drill, along with the one attempted (in 1984), pointed out the inadequacies in Alyeska's equipment and response capability."

See Page J-2, ALYESKA



An Alyeska crew maneuvers a containment boom into position during a training session near the terminal.

## Alyeska meets with DEC this week on oil spill response plan

Continued from Page J-1

ties," she said.

Dan Lawn, DEC's supervisor in Valdez, added this comment to Svancara's report: "The performance by Alyeska during this spill was similar to other drills the department has observed in the past. Again, there appears to be little or no improvement."

A report of the 1984 drill, written by a federal Environmental Protection Agency official, said the drill showed that the type of equipment used by Alyeska may not be suitable for conditions in Port Valdez.

An oil containment "boom" — an inflatable barrier used to corral oil and keep it from spreading — sank because of a faulty design that allows strong currents to push it over, the EPA report said.

The EPA report also questions the adequacy of training and said "it appears that Alyeska did not treat this exercise as a realistic spill event."

About 85 tankers call at Port Valdez each month, leaving with hundreds of millions of gallons of crude oil bound for refineries in the Lower 48.

The Coast Guard recently told Alaska Sen. Frank Murkowski's office that since 1977 there have been 19 spills totaling about 8,400 gallons of oil.

Alyeska said there have been 12 spills of oily ballast water or crude oil since 1980 that have been more than 40 gallons in size. The largest tanker incident was the ARCO Alaska in 1984 and amounted to about 2,830 gallons, Ratterman said.

DEC's Bayliss testified at the Washington hearing that from 1977-79 there were at least 47 spills, and one alone was 1,300 gallons. Bayliss noted that most of the tanker spills before 1980 were just a few gallons each.

But the threat of a major spill is real. Last month, a tanker loaded with Alaska crude oil on its way from Valdez to an outside refinery apparently ran aground in Port Angeles, Wash. Nearly 200,000 gallons of oil spilled from a rupture in the vessel's tanks, killing nearly a thousand waterfowl and shorebirds and threatening sensi-

tive marine habitats. A slick of the thick oil stretched for miles and fouled beaches. Clean-up costs have been estimated at \$3 million.

DEC's O'Brien said there have been a couple of close calls in Prince William Sound.

In 1980, a tanker laden with 35 million gallons of crude oil lost all power as it was outbound from Valdez, according to testimony in 1981 by then-DEC field officer Randy Bayliss. He was testifying before a Washington state council reviewing a plan for marine terminal operations in Port Angeles.

The fully loaded tanker was adrift and out of control for 17 hours. When the tanker finally regained power, it had drifted 26 miles and was less than 30 minutes from breakup on a rocky shoal at the northern end of Prince William Sound, Bayliss said.

Tugs surrounded the tanker but could not get a line on it because of high waves and lack of equipment on the tanker, Bayliss testified.

That near-mishap resulted in a change in Alyeska's oil spill contingency plan, O'Brien said. When the plan was re-certified in 1983, it required tankers to have a "quick-connect" towing system so tugs can hook up to the giant vessels if propulsion systems fail, he said.

More recently, DEC staff members have become increasingly concerned that staff cutbacks and an apparent cost-cutting campaign by Alyeska could lead to serious problems in the company's ability to handle oil spills.

In May 1984, Lawn wrote a four-page memo to his supervisors in Anchorage detailing the situation.

"Over the past several months, there has taken place a general disemboweling of the Alyeska Valdez Marine Terminal operational plan," the memo said. "Not only have there been severe personnel cuts, but operational plans and routine maintenance have been reduced drastically."

Lawn pointed out that DEC has not been able to inspect the facility adequately because of lack of money and staff. "Unfortunately, this has been a signal to Alyeska that the state is no longer interested" in the pipeline

project, he said.

Specifically, Lawn reported that many newer tankers had entered the Valdez trade and had never been inspected. The number of tankers calling at Port Valdez also had increased, he said.

But with the increase in shipping came a decrease in the number of persons assigned to marine operations, he said. At one time, there was a minimum of 14 people per shift, with two assigned to each loading tanker. By 1984, the number had dropped to an average of 11 people per shift with one person per tanker, Lawn said.

Lawn also criticized the cutback in workers on oil spill clean-up crews. He said the crews used to number four people per shift and were assigned only to oil spill clean-up.

In 1984, the number of people trained in oil spill response had been cut to two or three per shift and they were assigned other duties besides clean-up, he said.

Lawn warned that equipment was becoming outdated and training programs reduced. "The reliability of certain equipment is questioned, especially in a major spill situation," he said.

Lawn also said chances for oil spills were increasing because of an increased iceberg flow from the Columbia Glacier. An industry study in 1983 said there was no way to predict when ice from Columbia Bay, near the entrance to Valdez Arm, would move into shipping lanes, and vessels have refused to move through the area when it's dark, he said.

Tankers waiting for berth space have been forced to anchor several miles from the terminal and wait up to 100 hours before being able to take on oil, he said, adding that crews would not be able to respond to a spill as quickly.

Dave Decker, a Laborers Local 341 member who headed an oil spill crew for several years, echoed Lawn's concerns. Several other former and current Alyeska workers agreed with Lawn and Decker's assessment of the situation at the terminal.

The former workers, who requested anonymity, all had been laid off or fired. The current employees did not want their names used for fear of losing their jobs.

Decker worked at the terminal from 1979 until September 1984. He said he worked first for the contractor that provided oil spill clean-up crews, then in 1982 he stayed on as a union laborer when Alyeska eliminated the designated clean-up crews. Union laborers continued to respond to oil spills while performing routine maintenance throughout the terminal, he said.

Decker said while his crews were at the terminal, they tried to keep oil spill equipment in good shape. "But Alyeska never kept up with the technology of equipment," he said. "They depicted rather than upgraded it."

James Woodie, former marine superintendent and port captain for Alyeska, also expressed concern over cutbacks that seemed to result in an inability to handle a sizeable oil spill. Woodie was a 25-year veteran of the Coast Guard when he went to work for Alyeska in 1983, and had been commanding officer of the Coast Guard's Valdez office where he was responsible for oil spill clean-up operations from the regulatory side.

He was fired from the pipeline company in 1984 for insubordination. He declined to talk about his experience there because he has filed a lawsuit against Alyeska over his termination.

But a letter Woodie wrote to Alyeska soon after his departure outlines his concerns over several aspects of terminal operations, including oil spill response capabilities.

"Due to reduction in manning, age of equipment, limited training opportunities and lack of experienced coordination personnel, serious doubt exists that Alyeska would be able to contain and clean up effectively a medium or large size oil spill," Woodie wrote.

He said proposed training was approved in theory but personnel never were sent to training programs. Cost-cutting measures limited purchase of new equipment, he said.

## Unsafe Harbor <sup>2/20/86</sup>

# Alaska Pipeline Firm Is Accused of Polluting Sea Water Since 1977

## Alyeska Documents Support Claims of Lax Procedures At Water-Treating Plant

### Company Insists It Complies

By ANDY PASZTOR and ROBERT E. TAYLOR  
Staff Reporters of THE WALL STREET JOURNAL

First, federal inspector Dianne Soderlund noticed a layer of brownish scum on water ready to be discharged into Valdez harbor from the trans-Alaska oil pipeline's water-treatment plant. Later, when she spotted an oil slick at the same location, suspicion turned to alarm.

"It appears," she concluded, "there are significant operational problems at the facility." The plant is supposed to screen out oil and toxic pollutants from huge quantities of ballast water poured into the harbor by tankers as they queue up at the pipeline terminal to load crude oil at the feet of majestic, snow-shrouded peaks.

But evidence is piling up that the plant hasn't been doing its job effectively and that sludge containing toxic pollutants isn't properly removed from water that the plant discharges back into the harbor.

### Larger Questions

The preliminary warning from Ms. Soderlund to the Environmental Protection Agency came 17 months ago. Since then, a flurry of federal and state investigations has shaken public confidence in the pipeline's management and forced it to make costly improvements. The revelations also raise larger questions: Can state and federal officials adequately monitor pollution from such large, complex facilities? And why did it take them so long to act in this case?

Investigators have uncovered a history of questionable plant actions since the 1977 opening of the pipeline's huge southern terminal in Valdez, Alaska, which currently supplies roughly 15% of total U.S. oil needs. And the scrutiny is far from over. Still under investigation are the reasons why some pollution-control devices designed for the plant were never installed and others were disconnected or modified without notification to the EPA.

State probers are looking into further allegations of such criminal violations as submission of fraudulent environmental test results and false testimony to government regulators about potential hazards. Internal company documents show that some pipeline officials years ago suspected that the plant posed potential environmental hazards, but federal and state regulators contend that management failed to take steps to resolve the deficiencies until it was ordered to do so in the past few months.

### Improprieties Denied

Alyeska Pipeline Service Co., which operates the pipeline for eight major oil companies, says that it has complied with all anti-pollution laws and that all allegations of record-tampering, improper discharges and other improprieties are unfounded. It calls the pipeline terminal's ballast-water treatment plant "probably the best and most modern" facility of its kind in the industry, arguing that the criticism is fanned by misunderstanding of plant operations.

The focus of all this attention is a sprawling complex of giant tanks and miles of piping designed to remove and dispose of harmful pollutants contained in the roughly 13 million gallons of ballast water discharged by tankers daily. Empty tankers take on ballast water for added stability on the voyage to Valdez, then pump it out to take on crude oil destined for the lower 48 states.

An EPA administrative order issued last summer accuses Alyeska of violating the treatment plant's water-discharge permit by systematically recirculating potentially harmful sludge. A second compliance order was issued in conjunction with Alaska's Department of Environmental Conservation. Government officials contend that transfers of oily water and sludge from tank to tank within the plant allowed high levels of potentially harmful pollutants to build up in the system over the years and flow unnoticed to the bay.

### 'Serious Threat'

Ihor Lysyj, the main consultant hired by the EPA, recently reported to the agency that the plant's deficiencies allow "uncontrolled quantities" of toxic pollutants to enter the harbor. He also informally told the agency that such pollution presents an "imminent and serious threat to the environment."

Mr. Lysyj, one of the country's leading experts on ballast-water treatment, estimates that the plant currently spews 1,600 pounds of pollution into the harbor every day, including "extremely toxic and hazardous substances." Assuming that that rate has remained steady since the pipeline began operations more than eight years ago, he calculates, the plant may have released enough potentially hazardous sludge to cover completely about four football fields three feet deep.

The EPA's consultant compares Alyeska's sludge-handling procedures to "vacuuming your house, dumping all the collected dust back on the carpet and then starting the whole process over again." Federal and state regulators are conducting tests to determine how much of the sludge ends up in the rich fishing grounds of Prince William Sound and whether there has been any damage to marine life.

Although pipeline executives deny vio-

Please Turn to Page 13, Column 1

# Unsafe Harbor: Pollution of Ocean By Alaska Pipeline Firm Is Charged

Continued From First Page

lating any laws, they clearly are on the defensive. Under pressure from state and EPA officials, Alyeska appears to be spending millions of dollars to revise operating procedures, install new pollution controls and upgrade laboratory equipment at the treatment plant. The company also has promised to take additional steps that may be necessary to comply with what are likely to be more-stringent requirements for a new federal permit for continued operations at Valdez.

But local fishermen and some environmental groups complain that the state and EPA officials still haven't gone far enough. "The regulators did a very poor job over the years by failing to devote the necessary attention and expertise to supervise plant operations," contends Robert Blake, the president of the Cordova District Fishermen United and one of Alyeska's sharpest critics.

## Budget Pressures

Some state and federal enforcement officials concede that budget pressures, staff shortages and the press of other business contributed to the problem. Harold Geren, the regional chief of the EPA's water-pollution-control programs, recalls hearing concerns from his staff about the adequacy of the treatment plant as far back as 1981. But work on permits for pulp mills, offshore oil rigs and other facilities, Mr. Geren says, diverted attention from Alyeska. "We've been hard-pressed keeping permits issued promptly," he says.

The original design called for the plant to remove sludge from the system and burn it in a large incinerator. But Alyeska never constructed the incinerator and says it wasn't legally required to do so. A spokesman says the company decided it was unnecessary because the amount of sludge produced in the beginning was less than anticipated. Alyeska has said it segregated and stored only 450 cubic yards of the stuff since operations began in 1977. Also, under standard procedure, some is channeled into outgoing crude oil.

State and federal officials argue that much more sludge than that should have been removed. They say its recovery was impaired by operating and equipment changes, many of which Alyeska made without the notification that EPA officials say is required. For instance, the company substituted small, paddlewheel skimmers for the large, sweeping arms designed to skim oily scum off the surface of one set of tanks; and it stopped using equipment designed to scrape sludge off the bottom of the same tanks and to heat water to separate it from oil.

## Effectiveness Unimpaired?

Alyeska has told federal investigators that such changes didn't reduce the plant's effectiveness. But pipeline officials refuse to answer questions from The Wall Street Journal or discuss specifics until their discussions with the EPA are completed. Company officials previously said many of

the changes were intended to reduce costly maintenance problems. The company says it has fully complied with its water permit by generally curbing the plant's releases of oil, grease and three other oil-related pollutants specifically limited by the permit.

Investigators counter that the plant must be operated as efficiently as possible to remove all pollutants—regardless of whether they are explicitly mentioned in the permit. "There isn't any question that the practices we found are unacceptable, and they are violations of federal permit requirements," asserts Jamie Sikorski, former head of the EPA's clean-water compliance office for the region.

William Lamoreaux, a state environmental official who helped draft the plant's original operating permit, agrees. He says that a sludge pit, originally intended for temporary storage of wastes awaiting incineration, had been converted so that waste material was routinely pumped directly back into the ballast-water treatment tanks. Such recirculation of sludges was "never approved or contemplated by anyone involved at the beginning," Mr. Lamoreaux asserts.

For its part, Alyeska told the EPA in 1982 that toxic pollutants not specifically limited by the permit were found "in concentrations so low as to pose no possibility of significant or deleterious effects" on the port.

## Earlier Documents

Nevertheless, company concerns about the amount of sludge generated by the plant—and what to do with it—have surfaced in internal Alyeska documents written at least as far back as 1978. In that year, the terminal's then superintendent, F.C. Jones, wrote a letter to engineers at Exxon Corp., one of the eight owners of the pipeline, complaining that the treatment plant "does not provide any facility to remove solids" and asking for their help in solving the problem. The letter went on to say that while some of the materials "exit in the water effluent," the plant's "high recirculation rate of solids is currently interfering in" the system's overall operation.

State and federal investigators are examining the letter, which was obtained separately by The Wall Street Journal along with other Alyeska documents on the plant. Exxon officials say they don't know what their company did in response to the letter. Alyeska documents say that an Exxon official studied the plant, found that the sludge disposal would cost at least \$1.5 million annually and urged instead that more oily waste be diverted into crude oil destined for outgoing tankers.

In December 1978, an internal memo from plant operators estimated that "solids have accumulated at a rate of 1 to 2 tons per day (dry basis)," which, if accurate, would be far more than Alyeska has claimed to have separated and stored. State and federal regulators say that the company appears to be leaning toward building an incinerator at the treatment

plant to dispose of stored sludge.

State officials also are investigating the adequacy of the pipeline's contingency plans for an oil spill. The EPA and congressional investigators are looking into allegations that Alyeska improperly used the treatment plant to dispose of some chemical wastes that didn't come from ballast water. And the state's attorney general has collected documents relating to Alyeska's earlier statements about sludge-handling and to the question of whether some plant workers may have been improperly exposed to harmful chemicals over the years.

## Broker's Role

Some of the documents that investigators are using were obtained by Charles Hamel, an independent oil-transportation broker from Alexandria, Va. He has spearheaded criticism of Alyeska's management after contending that he suffered losses on some oil shipped through the pipeline that allegedly contained excess water. His allegations indirectly led to questions about the pollution-control practices at the plant, alerted Alaskan newspapers about the plant's apparent problems and prompted the EPA and the state to step up their investigations.

Investigators also have testimony from several former Alyeska employees claiming that their bosses encouraged or told them to tamper with pollution tests, report incorrect data and engage in other improper activities at the plant.

In sworn testimony to the Alaska Public Utilities Commission, Erlene J. Blake, a former plant laboratory technician, last year alleged it was "standard operating procedure at times" to "alter" such records. She told utility regulators that she was instructed to provide false reports to the EPA when the volume of treated water flowing into the bay exceeded maximum federal limits.

James Woodie, a former marine superintendent at the terminal, told the utility commission that "problem areas were masked and records modified" to suggest normal conditions at the treatment plant. Mr. Woodie also testified that plant operators were under instruction to disregard required safeguards if necessary in order to deal with unusually heavy incoming ballast flows. The operating principle, he said, was, "Just empty the tanks and make room."

Mr. Woodie is suing Alyeska, alleging that he was unfairly forced to leave the company before the investigations started. The company won't comment on the pending litigation.

Bill Ross, Alaska's top environmental official, several months ago confirmed that state officials, "working in concert with" the EPA, are conducting interviews and combing through Alyeska files to determine "whether any criminal violations may have occurred."

Many questions about the "sludge problem" at Valdez remain unanswered. But even the preliminary conclusions reached so far worry many scientists. David Shaw, a professor at the University of Alaska's Institute of Marine Sciences, who has studied Valdez harbor for Alyeska since the late 1970s, says of the increasing pollution on the sea bottom there: "I'm concerned it could be the tip of a serious problem."

# Alyeska files show sludge problem

By PATTI EPLER  
Daily News business reporter

Alyeska Pipeline Service Co.'s wastewater treatment plant in Valdez was producing so much toxic sludge two years after it started up that plant operators asked for Outside help to deal with the problem, according to documents from Alyeska's files.

The documents appear to directly contradict more recent statements by

**SEE COMMENT:** Alyeska's owners will say nothing more than that they have faith in the pipeline company. *Book Page*

Alyeska officials that the plant has generated little sludge in more than eight years of operation.

The documents also indicate that at least two of the oil companies that own Alyeska advised it years ago that the plant wasn't working as well as

anticipated and suggested ways to improve it. British Petroleum said in 1979 it was unlikely the plant could comply with new environmental permits.

But Alyeska apparently rejected these opinions and listened instead to experts who told them the plant was operating well, the documents indicate. The experts included a chemist with The Standard Oil Co. — the

largest owner of the Alyeska facilities — and an environmental engineer for Alyeska.

The documents include reviews of the plant by oil company accountants, letters to and from Alyeska officials, minutes of high-level meetings and internal company memos. They tell a much different story — at least about

See Book Page, ALYESKA

## ALYESKA: Files show sludge problem

Continued from Page A-1

the plant's first few years of operation — than Alyeska officials have told the public and government agencies for the past year.

Most of the documents were obtained by Charles Hamel, a former Virginia oil shipper who has waged a private war against Alyeska for the past five years. Hamel blames the pipeline company and its owners for the loss of his lucrative oil shipping business. He recently gave numerous documents to the government agencies investigating Alyeska and to the news media.

Alyeska officials are unwilling to answer questions about the documents, explain apparent discrepancies in recent public comments, or discuss operation of the plant.

"We continue to maintain that it would be inappropriate for us to preempt the investigations of the Environmental Protection Agency and the Alaska Department of Environmental Conservation by responding to inquiries from the news media," said John Ratterman, spokesman for Alyeska. He said the company has responded fully to questions from the agencies.

Frank Turpin, who was president of Alyeska from 1978 until last year when he became head of the state-owned Alaska Railroad, could not be reached for comment on Friday. Most of the documents pertain to the years in which Turpin headed Alyeska.

Alyeska operates the Valdez terminal and trans-Alaska pipeline for the eight oil companies that own the facilities. The owners are Standard Oil, British Petroleum, Atlantic Richfield, Exxon, Mobil, Union, Phillips and Amerasia Hess.

The environmental agencies are investigating allegations that Alyeska has discharged large amounts of toxic waste — called sludge — into Port Valdez. The sludge contains concentrated poisonous hydrocarbons that in sufficiently large quantities could damage the marine environment. For that reason, the amount of sludge produced by Alyeska — and its disposal — is a crucial question for the agencies.

The EPA and DEC have said they are convinced that the plant has produced much more sludge than Alyeska acknowledges. They are awaiting the results of tests to help them determine whether excessive, and illegal, amounts of sludge have been discharged into the bay.

Alyeska contracted to have the University of Alaska-Fairbanks conduct those tests.

Last July, EPA concluded that the way Alyeska ran the plant violated some conditions of its environmental permits. In November, it ordered Alyeska to make improvements in the treatment system that are likely to cost millions of dollars.

The primary purpose of the treatment plant is to clean the oil from about 13 million gallons of water brought to Valdez each day as ballast on oil tankers. The water stabilizes the ships on voyages from the Lower 48. Residual oil in the

tankers mixes with the ballast water and must be removed before the water can be pumped back into the sea.

Sludge is a byproduct of treating ballast water. The treatment separates the oily water into three basic elements: crude oil, clarified water and sludge or waste.

Last year, Hamel, the former oil shipper, publicly accused Alyeska of piping sludge into the waters of Prince William Sound. In denying the allegation, Alyeska said that in eight years the plant had produced only 690 cubic yards, roughly 344 tons, of sludge. Almost all the sludge has been stored at the plant while Alyeska figures out how to dispose of it, company officials said.

"They acknowledged that original plans for the plant called for construction of a huge incinerator to burn sludge, but it was never built, they said, because the plant never produced as much sludge as the engineers had predicted.

But a 1979 report by Exxon Research and Engineering Co., a separate review of the plant by British Petroleum and internal Alyeska memos say the plant was producing sludge and solid wastes in large enough quantities to hinder the treatment of ballast water.

In its first years of operation, the treatment process used a substance called alum to capture oily particles and separate them from the ballast water. The company soon realized that the powdery alum contributed to the large volume of solids. It switched to a liquid chemical that served the same purpose. But specialists from Exxon and British Petroleum believed the plant was continuing to produce large amounts of sludge.

On Sept. 20, 1978, F.C. Jones, at the time Alyeska's terminal superintendent, wrote to Exxon Research asking for help with the sludge problem.

"The present ballast water treatment plant design does not provide any facility to remove solids," Jones wrote. He said "a high recirculation rate of solids is currently interfering" with the water treatment and oil recovery processes.

A memo from Jones three months later said the solids appeared to accumulate at the rate of a ton or two a day.

In February 1979, G.W. Grove of Exxon Research wrote Alyeska with the results of his review of plant operations. He offered several suggestions for getting rid of the sludge, including incineration.

Grove calculated that the plant would generate at least 450 barrels of sludge, about 70 tons, each day "whether alum is used or not." Grove's estimate of sludge production is 500 times greater than Alyeska says was actually the case.

The cost of disposing of the sludge in 1979 was at least \$2 million a year, Grove wrote. Incineration in Valdez could cost more than \$8 million a year, perhaps less if water were removed before the sludge was burned, he said.

Ratterman, the Alyeska spokesman, refuses to discuss the incinerator or why it

wasn't built. But minutes from a September 1978 Alyeska meeting show that the company was concerned about the costs of sludge disposal.

Grove suggested that the best sludge disposal method might be to inject it into the recovered crude oil bound for Outside refineries. He also mentioned the idea of barging sludge to the Lower 48.

In December 1979, British Petroleum engineers wrote another report on the treatment plant for Alyeska, and suggested a study of solids and sludge "problems" with a goal of eliminating "the recent build-up of solids."

Moreover, BP was critical of the fact that Alyeska didn't let incoming ballast water sit long enough to allow crude oil to float to the top and sludge to sink to the bottom of its holding tanks.

At the time, BP was operating a similar facility in Scotland.

T. Pryal, a BP scientist, wrote that "it is thought unlikely that the existing effluent treatment facilities will be able to produce results compatible with the proposed new effluent limit..." The effluent limit was a condition of a new permit Alyeska was about to receive from the EPA in 1980. Pryal recommended that Alyeska look for better treatment methods.

Alyeska officials won't say why the BP and Exxon recommendations weren't followed.

In fact, in January 1980, about a month after BP submitted its review, an Alyeska official dismissed most of BP's concerns.

In 1980, Dick Mikkelsen, now Alyeska's chief environmental specialist, said he had been told by other Alyeska officials that the problem with sludge build-up had stabilized since use of alum had stopped.

"Before Alyeska commits to an expensive solids handling or (sic) removal system, I would suggest that we carefully study the extent of the problem," Mikkelsen wrote in a memo to one of his superiors.

BP's belief that the treatment plant would not be able to meet new federal permit requirements was unfounded, Mikkelsen said. He cited test results he said showed that the effluent was well within limits set out in the permit.

Still, two months later Mikkelsen was looking for ways to dispose of a lot of watery sludge.

A March 1980 memo from Mikkelsen recounts his conversations with a Kenai Peninsula company about disposing of 20,000 to 25,000 barrels, about 8,500 tons, of "sludge and oil/water emulsion" that had settled to the bottom of the tanks holding recovered crude oil. That's about 10 times more sludge — after 2½ years of operation — than Alyeska says has been generated since 1977.

In the summer of 1980, Alyeska again had the treatment plant evaluated, this time by The Standard Oil Co. The study found that the plant was complying with its permit "99.9 percent" of the time.

The report does not address the question of sludge accumulation or disposal.

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a-12

## Pipeline owners quiet

By PATTI EPLER  
Daily News business reporter

As much as possible, the eight oil companies that own Alyeska Pipeline Service Co. and its facilities have tried to keep Alyeska and its problems at a distance.

Officials with the owner companies — usually helpful and willing to talk about other issues like taxes and local hire — are steadfastly closed-mouthed about their Valdez oil shipping terminal and allegations that it is polluting Valdez bay.

Alyeska officials are the only people who can talk about Alyeska operations, said Perry Smith, a spokesman for Exxon Pipeline Co. "That's what Alyeska is for." Exxon Pipeline Co. owns 20.3 percent of Alyeska.

"Our position remains that Alyeska is the operator for the plant," said Al Greenstein, an Atlantic Richfield

Co. spokesman in Los Angeles.

An Arco official — H. Bond — chairs the "owners' committee" that closely oversees Alyeska. Arco Pipeline Co. owns 21.25 percent.

Greenstein reiterated Alyeska's position that it won't comment on the treatment plant while government agencies are investigating.

"We have full confidence in Alyeska," Greenstein said.

Chuck Webster, a spokesman for the Standard Oil Co. in Cleveland, also declined to discuss Alyeska. Standard Oil owns the single largest share of Alyeska, with 33.34 percent.

BP Pipelines Inc. owns 16.26 percent of Alyeska. British Petroleum also owns 55 percent of Standard Oil, but BP officials say that doesn't mean BP has any more control over Alyeska.

Officials at the company's

New York headquarters also refused to talk about Alyeska.

Ed Hoffman, a Mobil Oil Corp. official and member of the Alyeska owners' committee, also declined to elaborate on the committee's feelings about the allegations of pollution. He said the committee meets periodically and occasionally inspects the facility in Valdez.

"We have a lot of faith in Alyeska," Hoffman said.

He said Mobil is a minor owner of the pipeline company and doesn't have the involvement the larger owners do. Mobil Alaska Pipeline Co. owns 4.17 percent of Alyeska.

"I can tell you this," he said. "I'm not aware of any sludge problem."

Other owners include Union Alaska Pipeline Co., 1.35 percent; Phillips Alaska Pipeline Corp., 1.39 percent; and Amerasia Hess Pipeline Corp., 1.5 percent.

# Journal article relates Alyeska's pollution ills

Pollution problems at Alyeska Pipeline Service Company's Valdez tanker terminal made national news today in a lengthy front-page article in the Wall Street Journal.

The article, headlined "Unsafe Harbor—Alaska Pipeline Firm Is Accused of Polluting Sea Water since 1977," contains relatively little that is new to Alaska readers. Instead, it summarizes the lengthy list of charges, countercharges, investigations, findings and denials that has been growing since Alaska newspapers began reporting on the situation at Valdez a year ago.

Problems at Valdez were brought to the attention of the Environmental Protection Agency 17 months ago, the Journal reported, after federal inspector Dianne Soderlund noticed a layer of brownish scum on water about to be pumped into the ocean from Alyeska's ballast water treatment system. Later, she noticed an oil slick at the same location.

The ballast water treatment system is intended to clean oily wastes out of the seawater that tankers carry to stabilize themselves as they head north to pick up crude oil at the Valdez terminal.

There is evidence that the treatment system isn't working right and that toxic sludge isn't properly removed from the water the plant sends into Valdez harbor, according to the Journal.

Alyeska did not respond to the News-Miner's request this morning for a comment on the article, but the article says Alyeska has denied any wrongdoing or improper discharges at the plant.

Ihor Lysyj, a ballast water expert hired as a consultant by the EPA, estimated the plant spews 1,600 pounds of pollution into the water every day, enough sludge to cover four football fields to a depth of three feet if the rate has been constant since operations began in 1977. Tests are under way to determine how much of the sludge has ended up in the rich fisheries of Prince William Sound and whether it has damaged marine life there.

Among the other revelations by the Wall Street Journal:

- Under investigation are the reasons why some pollution-control devices for the plant were never installed and why others were disconnected or modified without notice to the EPA;

- State officials are examining charges that fraudulent environmental test results were submitted and false testimony was given to government regulators about potential hazards;

- Internal Alyeska documents show that pipeline officials suspected years ago the plant might pose environmental hazards, but state and federal officials contend the company did nothing about it until it was ordered to do so a few months ago;

- Federal officials are studying whether Alyeska improperly used treatment system to dispose of chemical wastes that didn't come from ballast water;

- Alaska's attorney general is collecting documents about whether plant workers may have been exposed to harmful chemicals.

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