

# EXHIBIT 2

Alaska's Oil Spill Response Planning Standard - History and  
Legislative Intent

# ALASKA'S OIL SPILL RESPONSE PLANNING STANDARD

## History and Legislative Intent

Report to Prince William Sound Regional Citizens'  
Advisory Council  
AUGUST 2018

WHEREAS, the citizens and the legislature of the State of Alaska worked diligently to ensure that the state's citizens and natural resources are protected from the occurrence and consequences of oil spills by enacting comprehensive legislation known as HB 567 to regulate oil spill prevention, response, contingency planning, financial responsibility, inspection authority, and other subjects relating to the safe transportation of oil and other hazardous substances, as a result of the lessons learned from the spill of the Exxon Valdez,

lessons learned from the spill of the Exxon Valdez'  
transportation of oil and other hazardous substances' as a result of the

*Excerpt from Resolution passed by communities and stakeholders  
in support of the implementation of HB 567 mandates (1991)*

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## ACKNOWLEDGEMENTS

The authors acknowledge with gratitude the contributions of the following individuals, who were willing to share their perspectives and memories about the development and passage of HB 567, based on their firsthand participation in the process (positions and affiliations during the *Exxon Valdez* oil spill and its aftermath noted in parentheses).

Steve Cowper (Governor of Alaska)

Drue Pearce (Alaska Senate President and Chair of the Special Committee on Oil and Gas)

Larry Dietrick (Director, Alaska Department of Environmental Conservation Division of Spill Prevention and Response)

David Rogers (Legislative Staff)

Marilyn Heiman (Staff to House Resources Committee)

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Dennis Kelso (Commissioner, Alaska Department of Environmental Conservation)

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The authors take full responsibility for any errors or inaccuracies in this document.

## AUTHORS' NOTE

This report is one of hundreds that Nuka Research has produced over the years, but it stands apart for many reasons. It presents a less formal narrative approach than our typical technical reporting. We felt this was appropriate given the subject matter and our shared personal connection to the topic. One of us lived and breathed the events described here, while the other responded in a college dorm room a continent away by switching majors to environmental science. Both of us have since built careers that center on cultivating vigilance and preparedness for events like the *Exxon Valdez* oil spill – largely inconceivable, until they are real.

We have both observed the cycle of preparedness and the inevitable slide toward complacency during the time between disasters. In oil spills as in many things, we must learn from history and endeavor never to repeat the past. We hope that this report will compel and inspire the next generation of mavericks and visionaries to continue to protect Prince William Sound and all other natural, beautiful places from oil spills and other environmental threats.

Tim Robertson and Elise DeCola, June 2018

*"Few will have the greatness to bend history itself; but each of us can work to change a small portion of events, and in the total; of all those acts will be written the history of this generation."*

Robert F. Kennedy

*"History is a cyclic poem written by time upon the memories of man."*

Percy Bysshe Shelley



The opinions expressed in this PWSRCAC-commissioned report are not necessarily those of PWSRCAC.

## Abstract

This report tells the story of how and why an unlikely alliance of regulators, politicians, oil industry executives, and international spill response experts used the *Exxon Valdez* oil spill as a springboard for reimagining oil spill preparedness and response in America's 49<sup>th</sup> state.

On June 27, 1990, Governor Steve Cowper signed a law that created, among other things, a response planning standard for oil spills. The new standard was a direct result of the massive failure of the spill response system in place when the *Exxon Valdez* ran aground. It established a foundation that continues to distinguish Alaska, and particularly Prince William Sound, as having a world-class preparedness and response system.

The genesis of Alaska's response planning system was an Emergency Order issued by the Alaska Department of Environmental Conservation two weeks after the spill occurred, compelling Alyeska Pipeline Service Company (Alyeska) – the consortium operating the Trans Alaska Pipeline and Valdez Marine Terminal – to create a response system with sufficient equipment, vessels, manpower, and ancillary support to handle a 10 million gallon spill. It prescribed a minimum round-the-clock response crew of 12, a 10,000 barrel per day on-water oil recovery capacity, dual escorts for all laden tankers transiting the Sound, and a two-hour response time to initiate containment and recovery. Alyeska was given 38 days to comply with the order; non-compliance carried the risk of shutting down the terminal.

Alyeska met the challenge with an Interim Plan that reflected long days of intense analysis and reluctant compromise among a team of industry response experts and attorneys. They sketched out a significantly enhanced response system modeled after the Sullom Voe Terminal in the Shetland Islands. This industry-generated Interim Plan included many of the elements later incorporated into the state law and regulations. In the case of Alaska's response planning standard, the legislative requirements tie back directly to the system that industry designed to handle an *Exxon Valdez*-sized spill. While opinions on the resulting bills vary, everyone interviewed for this report agreed that the response planning standard is a product of consensus and compromise from all sides.

The law that was enacted in June 1990 has been described as “self-executing,” in that it contains a number of very specific provisions that limited the need for interpretation during the regulatory process. One of the most important provisions – the requirement for a 300,000-barrel response capacity to be in place within 72 hours of a spill – was a direct nod to the fact that simply requiring a set amount of boom, skimmers, and vessels to be in place did not ensure an adequate response. A time-bound and capacity-driven standard was viewed as the best way to avoid ever reliving the *Exxon Valdez*.

Every individual interviewed for this report spoke about their involvement in creating and establishing Alaska's response planning standard with a palpable sense of accomplishment, which is particularly notable given their considerable achievements since. To a person, they were adamant that if the system created after the 1989 spill were to be weakened or removed, Alaskans would face the risk of reliving an event that is still deeply impressed upon all who lived through it.

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# ALASKA'S OIL SPILL RESPONSE PLANNING STANDARD

## History and Legislative Intent

August 2018

### I. Introduction

This report summarizes historical information about the development, passage, and implementation of House Bill 567 (HB 567), which created Alaska's oil spill response planning standard.

#### Why Now?

This report was developed during 2017-2018, at a time when many of the key individuals involved in creating Alaska's RPS were approaching the end of their careers. Some had moved onto work on other issues, and some had passed away. The purpose of creating this report and the process used to do so – which relied heavily on firsthand recollections of key participants – acknowledge that policy development is much more than legislative language or regulatory enforcement.

As the 30<sup>th</sup> anniversary of the *Exxon Valdez* oil spill approaches, there are many new faces in Alaska's legislature and executive agencies, and some may not fully appreciate the legacy they have been entrusted to protect. This report memorializes the "why" behind Alaska's oil spill response planning standards, in hopes that this knowledge will continue to inform the implementation of and compliance with these standards.

#### Regulatory Legacy of Exxon Valdez

This report focuses on the legislative and regulatory processes that occurred in the

wake of the March 24, 1989 *Exxon Valdez* oil spill. Most of the activity described ties to the State of Alaska legislative and regulatory process that began almost immediately following the spill, and continued until mid-1992.

While the focus of this report is on events that occurred in Alaska from 1989-1992, it also considers factors in place prior to 1989 and explores the legacy of the state's response planning standards to the oil spill contingency planning and response system currently in place in Prince William Sound.

Alaska was not the only jurisdiction to respond to the 1989 oil spill with new laws and policies; this report also touches on the concurrent changes to the U.S. oil spill response framework through the Oil Pollution Act of 1990.

#### Reconstructing the Story

This report synthesizes information from a number of sources to document the intent behind Alaska's response planning standard. The oil spill response framework envisioned after the spill and enhanced over time is ultimately the product of years of hard work, critical thinking, and creative problem-solving by a group of talented professionals and passionate stakeholders who were impacted in some way by the *Exxon Valdez* oil spill.





**Governor Steve Cowper signs into law a suite of bills developed to enhance Alaska's oil spill preparedness in the wake of the Exxon Valdez oil spill.**

Photo courtesy of David Rogers

In developing this narrative, we relied on a small group of individuals with a range of experiences and backgrounds – the former Governor and Senate President, leadership from within the Alaska Department of Environmental Conservation's (ADEC) Spill Prevention and Response program, legislative staffers, and oil industry executives – to help reconstruct and interpret events that occurred many years prior. Prince William Sound Regional Citizens' Advisory Council (PWSRCAC) staff and volunteers also provided critical input and knowledge.

While the narrative has been shaped by personal reflections and recollections of long-past events, the authors also undertook an extensive literature review. Our research spanned written memoranda, meeting summaries, internal legal and policy briefs,

and other contemporaneous sources from 1989 through the mid-1990s.<sup>1</sup>

### About this Report

The report begins with a brief summary of the *Exxon Valdez* oil spill, which served as the catalyst for introduction and passage of Alaska and U.S. laws creating new standards for oil spill preparedness and response.

The body of the report highlights key components of the Alaska state law and implementing regulations that created the state's oil spill response planning standards. The legislative history is examined to emphasize the intent behind these standards. The opinions and perspectives of firsthand participants are described to provide context for the legislative process and to highlight key achievements.

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<sup>1</sup> Key sources included the Alaska State Archives and PWSRCAC's document management system, include

The report concludes with the authors' observations on the importance of Alaska's response planning standards to the current

Prince William Sound oil spill preparedness systems.

## 2. From Oil on Water to Ink on Paper



**Valdez Marine Terminal in 1989.** (State Archives)

It is impossible to discuss Alaska's oil spill response planning standard without also discussing the *Exxon Valdez*. Without exception, each individual interviewed for this report began by recalling his or her experience during the 1989 spill and its aftermath.

While the broad details of the spill are well known, the narrative of the spill response – how it unfolded and progressed, how it impacted coastal communities, and how it exposed deep cracks in existing preparedness – shaped the subsequent legislative response. In order to understand how and why Alaska's oil spill response planning standard is so significant, it is useful to revisit a time when no such standards existed.

### Crude Oil Tankers in Prince William Sound

When the first laden oil tanker pulled away from the dock at the Valdez Marine Terminal in August 1977, the era of Prince William Sound crude oil shipping began. This historic voyage continued a legacy of oil and gas industry operations that began with the first oil claims in western Cook Inlet in the late nineteenth century. With the 1967 discovery of North America's largest known oil field in Prudhoe Bay, the scope and scale of Alaska's oil and gas industry expanded significantly.<sup>2</sup>

<sup>2</sup> Alaska Humanities Forum, 2017; McDowell Group, 2017.

**“The vessel’s course, down a 1,200-mile corridor designated by the United States Coast Guard, was to take it through the Valdez Narrows – at one juncture only 2,700 feet wide – and across Prince William Sound into the Gulf of Alaska.”**

New York Times article describing the voyage of the *Arco Juneau* (1977)

Construction of the Trans Alaska Pipeline and the Valdez Marine Terminal during the mid-1970s created an economic boom that resulted in thousands of jobs, both during the construction phase and after oil first began flowing in 1977.

During the 12 years that elapsed between the *Arco Juneau’s* historic first voyage and the grounding of the *Exxon Valdez*, approximately 6.65 billion barrels of crude oil were transported by tanker through the waters of Prince William Sound on their way to market.

### Oil Spill Response Framework in 1989

At the time of the *Exxon Valdez* oil spill, tankers were operating under a network of oil spill planning and response requirements established through state and federal law. The federal Clean Water Act<sup>3</sup> and complementary State of Alaska statutes and regulations<sup>4</sup> addressed oil pollution prevention and response, which were the foundation for the plans and equipment that were in place when the *Exxon Valdez* ran aground.

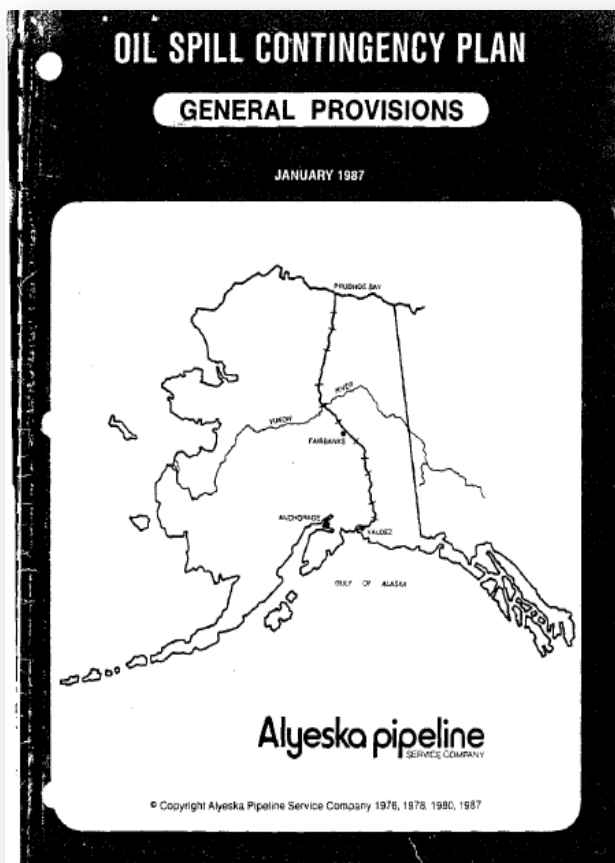
Alyeska Pipeline Service Company (Alyeska) published their first oil spill contingency plan in 1976, and was operating under a 1987 update to that plan when the oil spill occurred.<sup>5</sup>

<sup>3</sup> 33 USC Sec. 1251 et seq. (1972).

<sup>4</sup> AS 46 and 18 AAC 75.

<sup>5</sup> The evolution of Alaska’s contingency planning requirements is described in Section 4 of this report.

The 191-page plan outlined objectives and described roles and responsibilities for various members of their spill response team. It contained detailed information about estimating spill volumes, and general descriptions of spill response tactics. It also covered training and drills.<sup>6</sup>



**The 1987 Alyeska Oil Spill Contingency Plan identified a cache of equipment to support spill response, but when the *Exxon Valdez* spill occurred, the equipment needed to contain and recover the spill was buried under a massive snow pile.**

Since the plan applied to the entire pipeline, terminal, and tanker operations, a great deal of the information included was specific to inland spill response (along the pipeline route) and not applicable in Prince William Sound.

<sup>6</sup> Alyeska, 1987.

The 1987 Contingency Plan listed equipment that was available at the Valdez Marine Terminal and in other field locations. The equipment included 11 boats, 13 skimmers, and a total of 21,000 feet of boom of various sizes.

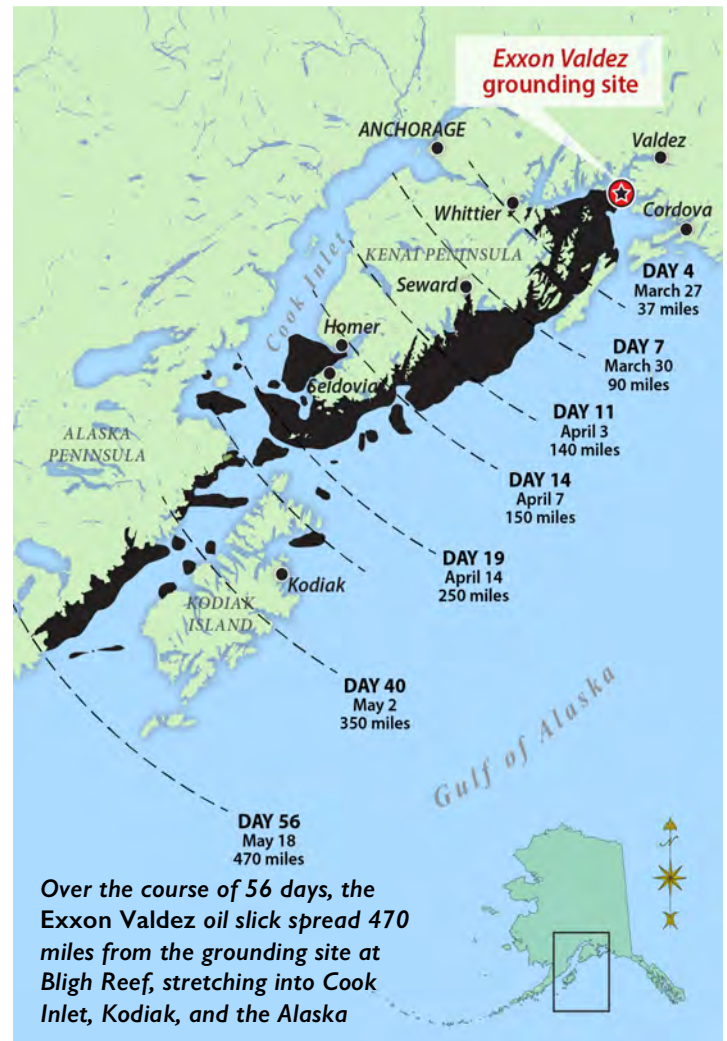
There were storage containers that could hold about 1,500 gallons of recovered fluids, and enough protective equipment to outfit 50 responders. The Valdez equipment cache also had a variety of hand tools and work equipment like compressors, hoses, pumps, lights, and battery packs.

On March 24, 1989, as a laden tanker ran aground on a well-charted reef, this equipment was buried under 10 feet of snow.<sup>7</sup>

### “Utterly Overwhelmed” by the Amount of Oil in the Water

Within three hours of the *Exxon Valdez* tanker grounding, nearly 6 million gallons had already flowed out of the damaged tanks and into Prince William Sound. Within 12 hours, the slick was estimated to be 3 miles by 5 miles. The sheer magnitude of this release completely overwhelmed both people and resources.

Alyeska had initial responsibility to try to contain and recover the spill. They responded soon after the grounding was first reported, but encountered a number of challenges. The spill response barge was not operational because it was undergoing maintenance following its use to respond to a spill at the terminal three months prior. There were not enough trained personnel and most of the response equipment was covered in snow. As a result, the initial response resources that were supposed to be on-scene within five hours of a spill did not reach the spill site until over 14 hours after notification.



Alyeska's initial focus was on lightening fuel off the damaged tanker, which further slowed the deployment of response systems. Containment booming around the leaking tanker was completed at 11:00 am on March 25, over 34 hours after the spill was first reported.

<sup>7</sup> Alaska Oil Spill Commission Report, 1990.



**Vessels on-scene at Exxon Valdez oil spill – April 5, 1989. (Alaska State Archives)**

On the second day, as their officials and personnel arrived in Valdez, Exxon began to assume responsibility for the spill response. While Exxon scrambled to mobilize people and equipment, local communities had already begun to mobilize fishing vessels, desperate to act against the unfolding disaster. A growing sense of frustration among local residents created tensions that played out in public meetings, the media, and their day-to-day lives. Despite calm, clear weather and a slick that “hovered in deep, calm waters near the grounded tanker,” the response was “utterly overwhelmed by the amount of oil in the water.”<sup>8</sup>

During the initial response, the U.S. Coast Guard closed the Port of Valdez to tanker traffic, which led to a subsequent reduction to throughput for the Trans Alaska Pipeline System, since oil movements out of the terminal had stopped.

**“The hard facts are that neither Alyeska nor the federal and state governments were prepared to deal with such a disaster...However, the Exxon Valdez incident was such a significant event that the oil industry and government were forced to examine how they would respond to future oil spills.”**

Michael Williams, former BP attorney, in *How the Exxon Valdez spill gave birth to modern oil spill prevention plans*, Alaska Dispatch News (2014)

### **National Oil Spill Response System: a “Toothless Tiger”**

During the days and weeks that followed, the pattern remained much the same. The oil continued to spread. The response continued to be inadequate. And Alaskans – from the governor’s office to the schoolyard – continued to experience outrage and disbelief that the safety system they had assumed to be in place had failed so spectacularly. The Alaska Oil Spill Commission described a level of frustration with both government and industry plans and as “toothless tigers” incapable of facing a major oil spill.

<sup>8</sup> Alaska Oil Spill Commission, 1990.

The governor of Alaska declared a disaster on the third day after the grounding, at which point the oil had already spread to cover more than 50 square miles. The initially calm weather eventually turned stormy, compounding the disaster by spreading the oil further to the south and west while precluding any cleanup.

### Communities Disrupted

As the oil spread, day-to-day life in coastal communities became completely focused on the spill response. Communities, families, and businesses temporarily set aside routines and responsibilities during the initial frantic weeks, not realizing that the cleanup process would drag on for years. As the oil spread and coated areas of the coast, the focus shifted from recovering or dispersing floating oil slicks to cleaning up oiled beach and dealing with masses of oiled wildlife.

Communities were on the front lines during the initial response, as the spill spread well beyond the capacity of Alyeska or Exxon to mitigate. An influx of responders from outside Alaska began to arrive by the hundreds. Communities that had self-directed *ad hoc* cleanup operations were forced to turn over local control to this broader spill response system. Some local residents were hired by the response, while others refused to work for Exxon. This fueled underlying stress and tension in communities that were already stretched thin.

The *Exxon Valdez* cleanup process continued across four summers before it was finally called to a halt in 1992. At its peak, the \$2.5 billion response involved 11,000 people, 1,400 boats, and about 80 aircraft. Despite this significant effort, winter storms may have

cleaned more beaches than the actual response.



*Exxon Valdez beach cleanup workers (Alaska State Archives)*

### Legislative Changes

The significant gaps and shortcomings in the Prince William Sound oil spill response system were laid bare during the multi-year cleanup process. Before the cleanup was completed, the State of Alaska had enacted laws and drafted regulations that would fill these gaps by reimagining a response system sufficient to manage another large-scale spill. The cornerstone of this approach was the creation of a response planning standard.

### 3. Emergency Order Compels a New Approach

Actions taken by Governor Steve Cowper during the first days of the spill laid the foundation for Alaska's response planning standard. A decisive leader by all accounts, Governor Cowper is said to have given the ADEC a very succinct directive for how to build adequate oil spill response capacity, which essentially amounted to "do the right thing."<sup>9</sup>

Recognizing that simply requiring stockpiles of spill response equipment did not assure a functional response capacity, the governor encouraged a more holistic approach that would ensure that Alaska never relived the *Exxon Valdez*.

#### "Rigorous but Achievable" Standards

While the eyes of the world were on Alaska and its massive oil spill, a small group of state employees, legislative staffers, and oil industry experts – each charged from above with building a better response system – rolled up their sleeves and got to work. As they set out to imagine the possible, they had the good fortune to draw from the knowledge and experience of a few visiting Norwegians.

When the spill occurred, the Norwegian Coastal Administration had sent a small delegation to offer suggestions to Alyeska for clean up technologies to mitigate the spill. Instead, the visiting experts ended up in a series of intense strategy sessions held in *ad hoc* meeting spaces across Valdez. Larry Dietrick and Steve Provant, contingency planners from ADEC, leveraged the Norwegians' expertise by focusing on the practical: using the *Exxon Valdez* as a worst case scenario, how would you design a system sufficient to mount a response to that spill in Prince William Sound?

<sup>9</sup> Personal communications with Dennis Kelso, August 28, 2017.

This approach helped to sketch out the minimum equipment capability requirements and delivery timeframes that would eventually evolve into Alaska's response planning standard. Phrases like "rigorous but achievable" were tossed around, and the outcome included some fairly specific requirements, such as 10,000 barrels per hour recovery capacity. The concept of a 72-hour initial response window also came out of these early discussions, based on the fact that oil spills become exponentially more difficult to clean up as the oil spreads away from the source and naturally degrades over time.<sup>10</sup>

**"We would meet at night in a windowless jury room in the Valdez law library."**

Larry Dietrick and Dennis Kelso, formerly of ADEC, on the *ad hoc* meetings that led to the issuance of an Emergency Order immediately following the *Exxon Valdez* spill (from August 2017 interview)

This element of the process is important because the response planning requirements that ultimately ended up in Alaska's statutes and regulations were actually created by technical experts with firsthand experience preparing for and responding to oil spills. The standards reflect the deliberate intent to set a high bar that held the industry accountable to concrete requirements. The only way to avoid a repeat of the *Exxon Valdez* response was to create standards that compel the industry to build and maintain a system that many had assumed was already in place at the time of the *Exxon Valdez*.

<sup>10</sup> Personal communications with Larry Dietrick and Dennis Kelso, August 28, 2017.

Before the response planning standards were formalized through the legislative process, they were implemented through an emergency order by the State of Alaska.

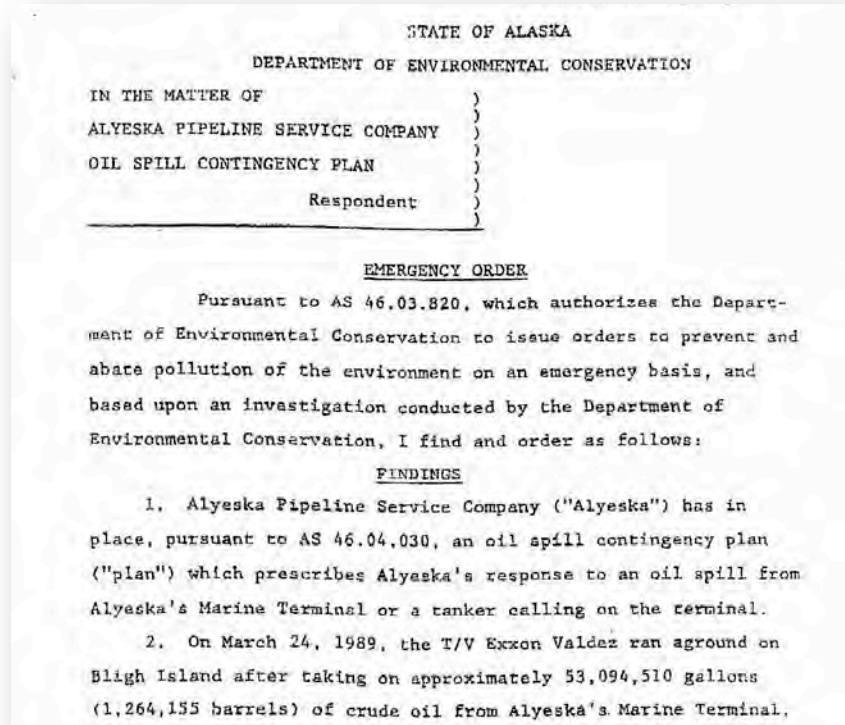
### Emergency Order

On April 7, 1989, two weeks after the tanker ran aground, ADEC Commissioner Dennis Kelso signed an Emergency Order<sup>11</sup> that detailed all of the failures in Alyeska's oil spill contingency plan, noting that "Alyeska's inadequate response to the spill under the plan to date demonstrates its inability to respond as required under the plan to any new oil spills." The Emergency Order set out a series of specific and time-bound requirements for Alyeska to put in place a robust oil spill prevention and response system commensurate with the risks that had been laid bare when the *Exxon Valdez* ran aground.

The Emergency Order directed Alyeska to submit a modified Oil Spill Contingency Plan that included the following components:

- All core contingency plan equipment in place at the terminal and dedicated to response;
- A dedicated, round-the-clock response crew of at least 12 on site and immediately available at the terminal at all times;
- Pre-booming all tankers;

<sup>11</sup> State of Alaska Department of Environmental Conservation, Emergency Order in the matter of Alyeska Pipeline Service Company Oil Spill Contingency Plan, pursuant to AS 46.03.820.



**Excerpt from 1989 Emergency Order that required additional equipment and capacity at Valdez Marine Terminal.**

- Dual tug escorts for all outgoing (laden) tankers to Hinchinbrook Entrance;
- Extension of mandatory pilotage zone for outgoing tankers;
- Sufficient response equipment, vessels, manpower, and ancillary support available to arrive on-scene within two hours of notification for a 10 million gallon oil spill in Prince William Sound;
- Communications requirements to monitor movements of outgoing tankers; and
- Enhanced notification requirements.

The State of Alaska insisted that Alyeska comply with these substantial additional response standards in fairly short order, suggesting that continued operation of the terminal could be in jeopardy if the



conditions were not met.<sup>12</sup> For example, the Order specified that Alyeska must acquire at least 30,000 feet of ocean boom and 10,000 barrels per hour skimmer capacity (including pumps, transfer and lightering equipment, and storage) and have this equipment in operation by May 15, 1989.

By giving Alyeska a 38-day time limit to build a response system that could handle another major oil spill, the Emergency Order created a strong imperative to innovate and problem-solve.

### Industry Responds with Interim Spill Plan

The State of Alaska had drawn a line in the sand, and Alyeska now faced the significant challenge of envisioning a system that would meet the Emergency Order criteria. Another series of late night strategy sessions ensued, this time led by the industry.

Mike Williams, then an attorney and policy expert with BP, was one of the leaders of this process. In a 2014 opinion piece in the Alaska Dispatch News, Williams recalls, "There was not a port in the world that required such a response. Plans for Valdez and other ports had always been written for 'the most likely spill,' a spill of about 10,000 barrels. These new standards meant that the new plan would have to be revolutionary."<sup>13</sup>

BP sent Williams to Anchorage to work with an unlikely team made up of spill response specialists and attorneys. His marching orders were simple; figure out a way to comply with the Emergency Order to "make sure the terminal stays open." From a suite of hotel rooms overlooking Cook Inlet, this

<sup>12</sup> State of Alaska Department of Environmental Conservation, Emergency Order in the matter of Alyeska Pipeline Service Company Oil Spill Contingency Plan, pursuant to AS 46.03.820.

<sup>13</sup> "How the Exxon Valdez spill gave birth to modern oil spill prevention plans," Alaska Dispatch News, March 18, 2014.

team of strangers from different industries and countries stared at a blank page, compelled by a ticking clock and a tense political climate.<sup>14</sup>

Collectively, Alyeska's strategy team had a good deal of knowledge about spill cleanup technologies and marine operations, and also understood the legal and regulatory context for demonstrating compliance. However, they struggled to imagine how to assemble sufficient forces to handle 10,000 barrels per hour of oil within two hours, anywhere in Prince William Sound. They scanned the globe for model response systems of the scale envisioned by the State of Alaska, and eventually set their sights on the Sullom Voe Terminal in the Shetland Islands. At the time, the Shetland oil terminal had a substantial offshore oil spill response capacity – arguably the most robust in the world.<sup>15</sup>

Keith Cameron, a BP response expert sent over from Great Britain, suggested bringing over the large weir boom system in Southampton, and mounting it on the deck of an anchor-handling tug so that it would be immediately available any time a tanker sailed through Prince William Sound.<sup>16</sup> This was the breakthrough that led the team to begin furiously sketching a prototype system of escort and response tugs, oil storage barges, and high capacity skimmers. The system borrowed elements from Sullom Voe, where they had a dedicated response capacity resident at the terminal, ready for immediate deployment.

<sup>14</sup> Personal communications with Mike Williams, September 25, 2017.

<sup>15</sup> The citizen oversight model in place in Sullom Voe ultimately provided the impetus for the creation of regional citizens advisory councils through the federal Oil Pollution Act of 1990.

<sup>16</sup> "How the Exxon Valdez spill gave birth to modern oil spill prevention plans," Alaska Dispatch News, March 18, 2014.

The industry team realized that adding response skiffs, boom, and trained personnel to the equation would create the immediate response capacity needed to meet the state's mandate for two-hour response times. The foundation for Alyeska's current Ship Escort/Response Vessel System (SERVS) was born this way, in the Sir Francis Drake Suite at the Captain Cook Hotel, in the early hours of a morning during the spring of 1989.<sup>17</sup>

***“How did we know we’d built the right-sized system? The Cordova fishing fleet wanted ten times as much equipment, and industry wanted to cut it in half.”***

Michael Williams, former BP attorney, personal communications (September 25, 2017)

The result of hard work and creative problem solving, the Interim Response Plan<sup>18</sup> envisioned a substantial system, which included:

- Three Escort Response Vessels (ERV), each equipped with two skimmers rated at 385 barrels per hour each, 4,600 feet of boom, a 20-foot work boat, and 4,000 barrels of oil storage capacity (two of these would travel alongside transiting tankers, the third stationed in Valdez);
- One Weir Boom Response Vessel (WRV), equipped with a high-capacity skimming system (rated at 4,200 barrels per hour) and a 20-foot work boat (stationed in Valdez);
- One Dynamic Skimming System (DSS), a 140,000 barrel integrated tug/barge permanently manned and equipped with two sweep arms (combined boom/skimming units with

2,100 barrels per hour rating), stationed at Knowles Head;

- One Lightering Vessel, an integrated tug/barge with 180,000 barrels storage capacity, equipped with fenders, pumps, moorings, and ancillary salvage equipment (stationed at Knowles Head);
- Two storage barges, one 73,000 barrels and one 63,000 barrels, each equipped with an assortment of containment boom (about 16,000 feet total), pump and skimming systems, and absorbent materials (stationed in Valdez);
- Two ship assist tugs available for pollution response (stationed in Valdez); and
- Two large fishing vessels under contract to Alyeska to assist in booming and skimming operations (in Valdez Harbor).

The Interim plan described a tiered response where the ERV would be on-scene immediately to support initial oil spill response, with a trained and dedicated ERV Response Supervisor on board to coordinate ship safety and direct spill response activities. Mike Williams points to this feature as particularly important and a direct result of the chaos and disorganization that characterized the initial response to the *Exxon Valdez* oil spill. By having a qualified initial Incident Commander ready to go, the ERV can get to work immediately to contain and control the spill during those critical initial hours.<sup>19</sup>

The second tier response would arrive on site within three hours, consisting of the Lightering Vessel and Dynamic Skimming System stationed at Knowles Head for rapid

<sup>17</sup> Personal communications with Mike Williams, September 25, 2017.

<sup>18</sup>“ Interim Operating Plan dated May 1, 1989 of Alyeska Pipeline Service Company.”

<sup>19</sup> Personal communications with Mike Williams, September 25, 2017.

deployment anywhere in Prince William Sound. Once on-scene, these resources would be directed by the ERV Response Supervisor. A third tier, available on site within 10 hours of notification, includes the Weir Boom Response Vessel and third ERV stationed in Valdez. One ship assist tug would tow a storage barge from Valdez to the spill site, while the other ship assist tug, along with contracted fishing vessels, would be sent to the incident site as soon as possible.

The industry team was in constant communication with ADEC as they drafted the Interim Plan, which like nearly everything that occurred during the policy fallout from the *Exxon Valdez* reflected equal parts out-of-the-box thinking and compromise. Even within the group assembled at the Captain Cook, there were differences of opinion borne of different corporate cultures among the oil companies that formed the Alyeska consortium. Williams describes the “socialization of concepts” among the industry representatives, and recalls some “annoyance” among oil company executives

at the roughly \$60 million annual price tag attached to the proposed new Prince William Sound response system.<sup>20</sup>

Nevertheless, on May 1, 1989, only 39 days after the spill, Alyeska delivered an Interim Spill Plan that met the very high bar the state Emergency Order had set. The core components of the system tied directly back to the failed *Exxon Valdez* response, by ensuring that there would be enough capacity resident in Prince William Sound for the first 72 hours of a spill, backed up by resources that could be brought to the site first from within the region and eventually from beyond Alaska.

Soon after Alyeska had reimagined oil spill response through the interim plan, the Alaska legislature began to envision a regulatory framework that would legally compel its existence.

**VESSEL MANPOWER AND TRAINING**

There will be approximately 48 people dedicated to vessels maintained for emergency response duties in Prince William Sound. These include:

ERV #1	8 crew/12 hour shifts	=	4/shift
ERV #2	8 crew/12 hour shifts	=	4/shift
ERV #3	8 crew/12 hour shifts	=	4/shift
WRV	8 crew/12 hour shifts	=	4/shift
DSS	8 crew/12 hour shifts	=	4/shift
LIGHTERING VESSEL	8 crew/12 hour shifts	=	4/shift
<b>TOTALS</b>	<b>48</b>		<b>24/shift</b>

In addition, there will be one ERV Response Supervisor on each shift.

*The Interim Plan that Alyeska developed included dedicated crew of 48 people (Note: image is crooked due to quality of original document scan).*

<sup>20</sup> Personal communications with Mike Williams, September 25, 2017.

## 4. Evolution of Alaska's Oil Spill Contingency Planning Regulations

The process of drafting, passing, and enacting new oil spill response standards for tankers and other oil facilities operating in Alaska took three years. It concluded approximately one month before active cleanup of the *Exxon Valdez* oil spill was declared complete.

On June 27, 1990, Governor Steve Cowper signed into law a suite of new legal requirements to ensure that all parties would be better prepared and equipped to handle future oil spills in Alaska. Understanding the significance of these new standards requires a basic understanding of the regulations that were in place prior to 1990.

### Requirements Dating to Late 1970s

At the time of the *Exxon Valdez* oil spill, Alaska already had a number of statutes, regulations, and programs focused on preventing and mitigating oil pollution. The ADEC had been in place for 18 years at the time of the accident. The requirement for oil spill contingency plans was enacted in October 1977, and the regulations specified that operators must identify “the amounts, specifications, limitations, and storage locations for cleanup equipment” along with “response times from the time of the discharge to deployment of containment and recovery equipment.”<sup>21</sup>

An important driver for these early regulations was the state's dissatisfaction with the level of preparedness that the federal government was willing to accept for Prince William Sound operations. As the startup of the Trans Alaska Pipeline System loomed large, tensions grew between state and federal regulators over how much equipment and preparedness was enough. Randy Bayliss,

the DEC regional supervisor for Prince William Sound during the development of the original oil spill contingency plan for the terminal and tanker operations, is noted to have taken a strong stance in insisting on a higher level of equipment than was ultimately put in place. Bayliss was quite candid in pointing to the tension between federal and state agencies regarding the sufficiency of contingency plans, with the state calling for higher preparedness and the federal government defending the plans as sufficient.

**“APO [the federal pipeline office] and USCG say the plans are quite good. SPCO [State Pipeline Coordinator's Office]...and DEC say the plans stink and other reviewers (NMFS, Fish & Wildlife) agree.”**

Randy Bayliss, ADEC Regional Supervisor for Prince William Sound (May 2, 1977 memo)

Three major areas were cited where Alyeska was not meeting the state's expectations for equipment, “(1) they refuse to buy more than 11,000 feet of boom (we want about 60,000 feet); (2) they refuse to place any boom or boats in Prince William Sound (we want about 80,000 feet and six boats divided up at sites on Montague, Naked, and Glacier Islands); (3) they refuse to buy lightering pumps.”<sup>22</sup>

The 1977 regulations specified approval criteria for the state to accept contingency plans, including “applicants must provide and maintain oil discharge pickup or removal equipment of sufficient capacity to remove the median oil discharge in not more than 48 hours, and the maximum probable oil spill within the shortest feasible period of time.” The regulations also required that oil spill

<sup>21</sup> Register 63, October 1977, Regulations at 18 AAC 75.310(8) and (10).

<sup>22</sup> Alaska Oil Spill Commission report, 1990 (pg 41).

response equipment “must be stored and maintained so that it can be deployed and operational within no more than 12 hours after the oil discharge.”<sup>23</sup> Maximum probable oil discharge was defined as the entire capacity of the vessel.

### The First Contingency Plan

As the state sought to enhance their requirements in the face of new risks from tanker and terminal operations in Prince William Sound, the federal government granted approval, on June 11, 1977, to the Alyeska Oil Spill Contingency Plan. There was some language in the approval that acknowledged there would be future reviews and that ongoing enhancements and improvements were expected, but the first version of the approved plan fell well short of the equipment standards that the State of Alaska established in their regulations, which were finalized after the first Alyeska plan took effect.

Not only did the plan not meet the state’s expectations, ADEC’s Bayliss conducted an inspection in December 1977 and found that of 170 pieces of equipment listed in Alyeska’s plan as being present at the Valdez terminal, 137 of them were missing or inoperable.<sup>24</sup>

Controversy and disagreement among state regulators, federal regulators, and the industry continued over the next several years. As ADEC began to implement their new regulations, Alaska’s Attorney General was facing a lawsuit in federal courts challenging the state’s authority to create standards for the tanker industry, under the Supremacy Clause of the U.S. Constitution.<sup>25</sup>

Little progress was made during the late 1970s to enhance the oil spill response

system that Alyeska had put in place, and state contingency plan reviews were stalled by the legal challenges.

**“Alaska law requires preparation of contingency plans for a variety of situations. And though the Department of Environmental Conservation (DEC) can withhold approval, it has inadequate statutory and regulatory means to force compliance with plan standards. State law also currently provides only minor sanctions for failing to follow a plan in the event of a spill.”**

Alaska Oil Spill Commission Report (1990), describing the state’s authorities under laws and regulations in place at the time of the Exxon Valdez oil spill

The regulations were updated in 1981, and the contingency plan approval criteria were strengthened by requiring applicants to “have ready access to sufficient resources to protect environmentally sensitive areas and areas of public concern.” The revised regulations specified that operators must “maintain in their areas of operation sufficient oil discharge containment and removal equipment to rapidly contain the oil discharge...and remove that discharge within a 48 hour period when adverse conditions do not threaten safety of personnel.”<sup>26</sup>

By 1982, ADEC had conducted their first complete review of the Alyeska Oil Spill Contingency Plan, granting a “conditional” 45-day approval, followed by full approval of the plan in January 1983. The state’s approval was granted despite the results of a “reality test” by then ADEC District Supervisor in Valdez, Dan Lawn, which stated that the plan “probably satisfies the regulation requirements on paper; however APSC [Alyeska] has never been able to demonstrate that the recovery rates listed in

<sup>23</sup> Register 63, October 1977; 18 AAC 75.340 (5) and (9).

<sup>24</sup> 1990 State Commission report, pg 45.

<sup>25</sup> *Chevron USA Inc. v. S. Hammond* (76 F2d 483).

<sup>26</sup> Register 79, October 1981; 18 AAC 75.350(1) and (4).

Appendix B are possible to attain.”<sup>27</sup> Lawn’s speculation was confirmed in March of 1989.

### Maritime Fiction

Those who were involved in the initial frenzy following the *Exxon Valdez* oil spill recall a phrase that has been attributed to several different individuals, and was likely spoken more than a few times:

“Alyeska’s oil spill contingency plan at the time of the spill was the greatest work of maritime fiction since *Moby Dick*.”<sup>28</sup>

Clearly, a disconnect existed between the state and federal regulations governing oil spill contingency plans and the actual system in place at the time of the *Exxon Valdez* oil spill. Alyeska was not able to meet the state planning standards to “rapidly contain and remove the discharge within 48 hours,” despite favorable weather during the initial days of the spill. They did not have enough equipment on hand to handle the spill that occurred, let alone the “maximum probable spill” of the tanker’s entire capacity. And the equipment at the Valdez Marine Terminal could not be “deployed and operational” within 12 hours because it was buried under a pile of snow.

The problem wasn’t a lack of regulations; it was that the regulations had not compelled an adequate oil spill response system. Therefore, as the Alaska legislature began to contemplate ways to strengthen state requirements, they confronted the same basic challenge that the technical team from ADEC had faced during their heated work sessions with the Norwegian spill response experts: *How can the state compel the industry to create and maintain sufficient spill response capacity to combat an Exxon Valdez scale event?*

<sup>27</sup> Alaska Oil Commission Report, 1990 (pg. 47).

<sup>28</sup> The authors have heard this quote attributed to both Dennis Kelso and Steve Cowper.

**“The notion that safety can be insured in the shipping industry through self-regulation has proved false and should be abandoned as a premise for policy. Alert regulatory agencies, subject to continuous public oversight, are needed to enforce laws governing the safe shipment of oil.”**

Alaska Oil Spill Commission Report (1990)

### Alaska’s Legislative Package

A legislative response to the largest tanker spill in U.S. history was inevitable, and both the State of Alaska and the federal government ultimately enacted a suite of new laws. As thousands of cleanup workers attempted to deal with the mess in Prince William Sound, a team of legislators and policy experts worked in Juneau to lay the groundwork for a regulatory fix.

There were several bills introduced into the sixteenth Alaska legislative session, in both houses. Of all of these, House Bill (HB) 567, which was introduced first into the House, and later moved through the Senate, is most closely associated with Alaska’s response planning system and the Prince William Sound oil spill response capacity that it created.

When the oil spill occurred, Alaska’s legislature was nearly through its first session (which ended May 9, 1989), and while there were a few initial bills that passed right away, such as restructuring the system of oil spill fines and penalties, the larger pieces would require more time. During the recess, the Alaska Oil Spill Commission had convened to conduct a detailed after-action analysis of the incident and what went wrong, along the same lines as the recently completed commission report into the Space Shuttle Challenger disaster. The commission report and those who were involved with it

provided a lot of input and direction to the legislative process.<sup>29</sup>

When the second session of the legislature reconvened on January 8, 1990, Governor Steve Cowper was ready with a suite of bills that focused specifically on oil spill response. While the final Oil Spill Commission report would not come out until February of 1990, many of the findings were already publicly known, and these helped to shape the legislative response. There was a great deal of tension in Juneau at the time, and there were a number of competing agendas ranging from the Oiled Mayors group, who were calling for swift and drastic reform, to senior legislators cautioning against hasty action. Due in part to differences in climate in the House and Senate, the process that unfolded involved most of the legislation being crafted in the House of Representatives.<sup>30</sup>

HB 567 was drafted by a working group spearheaded by Senator Drue Pearce, Chair of the Special Committee on Oil and Gas. The decision to move it through the House first was a practical one, to take advantage of a slightly less charged political climate. But the contents of the bill reflected input from legislators and their staff from both houses.

On February 22, 1990, the bill was passed into the House Rules and Finance Committee, and it proceeded from there through the Resources Committee and Finance Committee, before passing out of the House on April 30. Just over a week later, on the final day of the second legislative session of Alaska's sixteenth state legislature,<sup>31</sup> with only minutes to go before the clock struck midnight and the session adjourned, a

combined Senate-House bill was passed and was subsequently signed into law.

Along the way, there were numerous hearings,<sup>32</sup> meetings, and teleconferences. Legislative staff put in long hours, and members of the public delivered impassioned statements at hearings across the state. Participants in this process describe deliberate efforts to ensure that the bill retained broad enough appeal to ensure its passage.

At the same time, there was a push to make the law as specific as possible, so that there would be no room to water it down or otherwise alter the intent during the regulatory process. Written accounts of the HB 567 policy process often refer to the need for a "self-executing" statute. This concept is supported by an opinion from the Division of Legal Services and Legislative Affairs, which came out shortly after the legislation was passed, implying that aspects of the new law – including response planning standards and financial responsibility requirements – were explicit enough to be enforceable before regulations had been drafted.<sup>33</sup>

In recalling the process of negotiating the final bill, former Senator Pearce summed up their goal in terms similar to those used to design the Prince William Sound response system in the weeks after the spill: "At the end of the day, we needed a suite of bills that nobody loved but everybody could live with." Senator Pearce assigned David Rogers, an attorney on the legislative staff, to chair an informal working group to hammer out the

<sup>29</sup> Personal communication with Drue Pearce, October 19, 2017.

<sup>30</sup> Personal communication with Drue Pearce, October 19, 2017.

<sup>31</sup> May 8, 1990, as documented in <http://w3.legis.state.ak.us/docs/pdf/ROSTERALL.pdf>

<sup>32</sup> At the time, PWSRCAC staff and Board members were among those who provided testimony during legislative committee hearings.

<sup>33</sup> Memorandum from David E. Rogers to PWSRCAC, May 1, 1991 (client privileged communication, information used with permission).

contents of the bill.<sup>34</sup> Rogers, who specialized in brokering complex environmental laws and regulations, recalls this process as the most intense of his career. His recollection of the final month of that legislative session involves being stuck in a room for hours on end of tense deliberations, with the marching orders from Senator Pearce to “go figure it out and come out when you’re done.” Rogers recalls, “I’ve never been more exhausted.”<sup>35</sup>

***“And so we began, working night and day, sometimes in large general sessions going through various versions of the bill line by line; sometimes in subgroups hammering out specific compromises on tough issues... Representatives of industry, local governments, the Administration, House and Senate Committees, native corporations, environmental and other interest groups, the Alaska Oil Spill Commission and members of the public in general participated in these sessions.”***

David E. Rogers in a memorandum to PWSRCAC (May 1, 1991; reprinted with permission)

Most of the provisions in the bill reflect working group consensus and compromise. There was an implicit recognition that the “window of opportunity” for legislative action would not remain open indefinitely. Still, David Rogers reported that even after the bill passed, “there were lingering concerns, and further controversy and debate over regulatory interpretations of legislative intent and other issues was expected.”<sup>36</sup>

And of course, the Alaska legislature wasn’t the only such body making changes. While negotiations played out, key Alaska legislators were coordinating their efforts with their counterparts in Washington, D.C., attempting

to harmonize the Alaska state regulations with the emerging federal Oil Pollution Act. In a parallel effort, industry representatives were also coordinating their efforts in Juneau and D.C., continuing to try to manage the compliance burden for the new state and federal systems.<sup>37</sup>

## Key Provisions

Section 9 of the newly enacted law that began as HB 567 includes general requirements for oil spill contingency plans, and Section 10 establishes the planning standards. The law<sup>38</sup> includes several provisions that created new oil spill response planning standards that would be applicable in Prince William Sound:<sup>39</sup>

- Changed the performance standard for responding to an oil spill from the “shortest feasible time” to the “shortest possible time;”
- Created response planning standard for oil terminal facilities to contain or control, and cleanup a discharge equal to the capacity of the largest oil storage tank within 72 hours, with an opportunity for ADEC to require a higher planning standard volume in high risk areas;
- Required tank vessels or oil barges with a cargo of 500,000 barrels or more to have enough resources within the region of operation to contain or control, and clean up a 300,000 barrel discharge within 72 hours;<sup>40</sup> and

<sup>34</sup> Personal communication with Drue Pearce, October 19, 2017.

<sup>35</sup> Personal communication with David Rogers, September 26, 2017.

<sup>36</sup> Memorandum from David E. Rogers to PWSRCAC, May 1, 1991 (client privileged communication, information used with permission).

<sup>37</sup> Personal communication with Drue Pearce, October 19, 2017.

<sup>38</sup> AS 46.04.030.

<sup>39</sup> The law also addresses planning standards for exploration or production facilities and pipelines, but these are not discussed because they are beyond the scope of this report.

<sup>40</sup> AS 46.04.030(k)(3). For crude oil vessels under 500,000 barrels, the requirement is for a 50,000



- In addition to the 72-hour response standard, each contingency plan holder has to maintain either within or outside their region of operation additional resources to contain or control and clean up a realistic maximum discharge within the shortest possible time, and to demonstrate that out of region resources are accessible and will be deployed and operating at the discharge site within 72 hours.

***“The general principles underlying the development of the bill...can be the basis for interpreting the legislation and evaluating the implementation program when all else fails:***

- 1. The Legislature wanted enhanced protection from oil spills based on verifiable facts, reasonable assumptions and fair application of standards and other requirements;***
- 2. To the greatest extent possible, the new system should be set up so that everybody knows what is expected of them in advance with sufficient flexibility to deal with a variety of circumstances and changing technology; and***
- 3. Paperwork and related regulatory requirements should be adequate to protect the public interest but should not require excessive information submittals or unnecessary duplication of efforts and should encourage timely administrative action.”***

David E. Rogers in a memorandum to PWSRCAC  
(May 1, 1991; reprinted with permission)

Beneath each of these standards lies a complex web of negotiation and compromise that influenced the final word of law. And while many aspects of the law support the goal of “self-implementing” standards, there are a few areas where legislators kept the

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barrel discharge. A separate standard for non-crude tank vessels was also established.

statutory language vague enough to require additional work during the regulatory process.

### ***Crude Oil Tanker Standard***

The first of several “deal-breaking” issues that surfaced during the legislative process related to the question of planning volumes for crude oil tankers. Prior to HB 567, there had been a single response planning standard that applied to all types of operations. The new legislation specified planning standards based on the type of operation and the type of oil involved. The bill as passed required oil tanker operators with a capacity over 500,000 barrels to “contain or control and clean up” within 72 hours a 300,000 barrel spill.

This volume is a compromise from the original language proposed by Governor Cowper, which specified that plan holders must demonstrate that they can respond to a “tankerful within 72 hours.” The industry pushed back forcefully on this provision, and this controversy had the potential to bring the entire process to a standstill. The Cowper Administration is ultimately credited with breaking through on this issue, by establishing a “bottom line” of 300,000 barrels, which is slightly more than the volume of oil spilled by the *Exxon Valdez*.<sup>41</sup>

The 72-hour standard was more difficult to rebut. Marilyn Heiman, who was on the staff of the Alaska House Resources Committee when HB 567 was introduced, noted that the experience waiting for equipment to arrive during the *Exxon Valdez* oil spill had helped to ground truth the issue for political leaders. Day after day, they waited for equipment to arrive. “Nothing arrived. There was nothing there.”<sup>42</sup>

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<sup>41</sup> Memorandum to PWSRCAC from David E. Rogers, May 1, 1991.

<sup>42</sup> Personal communications, August 28, 2017.

The statutory language makes it very clear that these are *planning* and not *performance* standards, which was a critical distinction for industry. Planning standards establish criteria that must be demonstrated through contingency plans. However, there is no corresponding requirement that the identified equipment and systems perform to the contingency plan specifications. The planning standards ensure that operators have enough equipment in place to clean up a worst case spill, but fall short of requiring operators to demonstrate compliance by ensuring that the equipment performs to the contingency plan specifications.

### **Department Discretion and Prevention Credits**

There are several instances where the new law gives ADEC the discretion to adjust standards based on other risk factors. The department could, for example, adjust the planning standard in cases where a spill enters an environment other than open water. The rationale for this example would be instances where rapid clean up may do more harm than good.

The new law established the concept of prevention credits, where the department could make exceptions to planning standards in cases where a plan holder had prevention measures in place that might reduce the likelihood or severity of an oil spill – measures such as double hulls, secondary containment systems, or enhanced vessel traffic systems.

### **“Contain or Control”**

During the legislative process, the language for what needed to be accomplished in the first 72 hours changed from “contain and clean up” to “contain or control and clean up.” The reasoning here was to provide more flexibility from a tactical perspective, since sometimes a spill could be controlled by directing or funneling oil toward recovery

systems, rather than specifically containing it with encircled boom.

**“Alyeska will have to increase its capability significantly to satisfy the new law...more accurate factors must be developed to take into account various parameters influencing equipment performance such as available daylight, weather, historical skimming performance, response time, oil recovery strategy, rate of oil volatilization, losses in the water column, oil viscosity, emulsification, the overall thickness of the floating oil and the free water that is recovered in the oil. The uncertainty inherent in each of these factors argues against enshrining any particular efficiency rates in the regulations at this time.”**

Larry Dietrick, in a letter providing ADEC comments on draft HB 567 regulations (February 12, 1991)

### **Establishing Realistic Maximum Discharge Volume**

The new law broadly defined “realistic maximum discharge,” without attaching a specific number or formula for calculating the volume. The challenges in defining this term relate back to some of the give and take around establishing a 300,000-barrel spill volume rather than a full oil tanker storage volume for the purpose of planning standards. Clarifying how realistic maximum discharge would be determined was left to the regulatory implementation team, and was a source of considerable disagreement during that process.

### **Implementing Regulations**

Once the oil spill response planning standards were signed into law, ADEC was faced with the prospect of drafting regulations to implement these new standards. This process began in early 1991 with the formation of an HB 567 Implementation Technical Workgroup. Like the legislative process that created the new law, the process of developing regulations involved a great deal of discussion, discord, and ultimately, compromise.

PWSRCAC's internal records indicate the receipt of multiple drafts of regulatory language and supporting technical analysis between February and June 1991. The public review draft of ADEC's regulations was released on July 8, 1991, initiating a 45-day public comment period. The workgroup continued to meet during the development process and through the public review phase. PWSRCAC also worked actively to disseminate information through the media and public announcements, as well as direct mailings. The record from public hearings held in Anchorage and Juneau during August 1991 include comments from PWSRCAC staff active in the regulatory development workgroup. By the time the comment period closed in late August 1991, a significant body of comment and analysis had been created.<sup>43</sup>

Several issues related to Alaska's response planning standard were hashed out through the regulatory process, including: defining realistic maximum oil discharge; establishing technology requirements to meet the "contain or control and clean up" standard; operating assumptions for evaluating response planning standard compliance; use of non-mechanical response techniques; and prevention credits.

### **Defining Realistic Maximum Oil Discharge**

Defining realistic maximum oil discharge (RMOD) was one of the more controversial issues that the legislature passed along to ADEC during the regulatory process.<sup>44</sup> A number of approaches were considered, ranging from requiring each operator to

<sup>43</sup> PWSRCAC has compiled a comprehensive record of all of the documentation spanning the introduction of HB 567 in 1990 to its most recent legislative amendments in 2005. The record also documents the complete regulatory process. The resulting document, at 3,971 pages, is available in the PWSRCAC archives.

<sup>44</sup> See discussion on previous page under heading "Establishing Realistic Maximum Discharge."

develop a technical risk analysis to using a simpler across-the-board approach of largest possible release volume. According to House committee hearing records, the original term used was "worst case oil discharge," but this was changed to "realistic maximum" to open the door to a standard below the full bucket volume. It is important to remember that the legislature and ADEC were both looking at this issue more broadly than just for tankers, and this confounded the discussion, since total spill volumes and risks differ considerably for pipelines or production facilities compared to tankers.

The rulemaking process contemplated different volumes for the out-of-region standard before settling on 60 percent of the total cargo volume. This was an issue that PWSRCAC lobbied hard to keep at the full volume of the tanker. Industry had pushed for a lower standard (30 percent), so again the final result was a compromise.

***"How big a spill to plan for is the most controversial issue in these draft regulations. As written, contingency plans must start with the assumption that losing all of the oil in a tanker or barge is a realistic possibility. DEC is likely to get intense pressure to lower that standard. Alaskans need to let DEC and the Governor know that planning for a major oil spill less than the full contents of a tanker is unacceptable."***

Statement by PWSRCAC President Chris Gates,  
(June 1, 1991)

### **Best Available Technology**

The legislature also transferred the burden of establishing technology standards to the ADEC regulatory process. Even so, it was unclear to many whether ADEC was expected to prescribe specific design standards for oil spill recovery technologies, or whether they were going to allow for more flexibility. The dividing lines on this issue were not always clearly industry versus

government, as sometimes more prescriptive standards, even if strict, give the industry a level of predictability that they do not always have when regulators apply a more flexible approach.

### **Planning Standard Assumptions**

While the response planning standards created by HB 567 were clear, they did not address variables or assumptions concerning weather conditions, operational periods, actual recovery rates (rather than manufacturer nameplate recovery rates), and other more practical issues. The topic of assumptions was strongly debated during the regulatory development process. The legislature had been provided with some general assumptions (such as 12 hour per day operations and 30 percent de-rating of skimmer nameplate<sup>45</sup>) during the legislative process, and there was some disagreement as to whether these were offered as examples or intended to be carried through into regulatory requirements.

### **Non-Mechanical Response**

There was significant debate during the regulatory process regarding whether non-mechanical response techniques (dispersants or in-situ burning) would be allowed to meet the “contain or control and clean up” requirement. In the end, the standard focused on mechanical recovery as the primary response measure.

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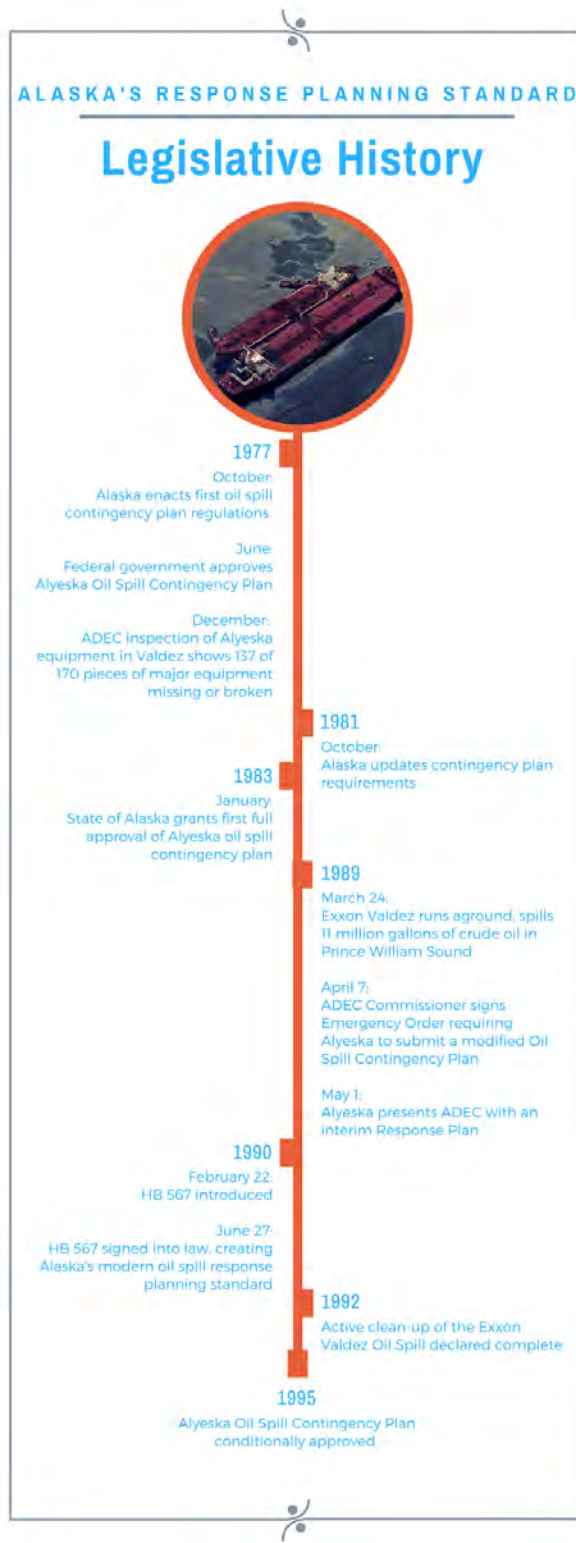
<sup>45</sup> De-rating of skimmer capacity is a common practice in oil spill contingency planning. When manufacturers develop oil skimmers, they are assigned a “nameplate” recovery capacity through a standard evaluation process involving operation of the skimmer in test tanks. To account for the fact that oil spill skimming systems rarely perform to the standards achieved during tank testing, their performance is often de-rated, or reduced by a standard percentage, to represent the efficiency losses that often happen in real world conditions. Thus, a 30 percent de-rating for a 100 barrels-per-hour skimming system would be 30 barrels-per-hour.

### **Prevention Credits**

During the regulatory process, there were disagreements regarding the intent of prevention credits, and specifically whether prevention measures already required by law should be eligible for such credits. ADEC tended to view the purpose of these credits as incentivizing additional measures rather than reducing planning standards for measures that were already required. Others insisted that the legislative intent behind this provision was to provide a system for recognizing and awarding risk-reduction measures, regardless of whether they were required by law. If an operator had measures in place to reduce oil spill risks, they should be rewarded with a lower planning standard.

Some considered prevention credits to pose a threat to the overall goal of enhancing response capabilities, since theoretically such credits could erode the spill response capacity compelled by the new laws and allow the industry to end up back where they were before HB 567 was enacted. Nonetheless, the incorporation of prevention into the new regulatory framework was viewed as an important component to creating a safer system overall.

## 5. What Alaska Achieved



The *Exxon Valdez* oil spill legislative process is fascinating on many levels. The spill created an imperative for legislative change, but arguably, the immediate actions that the State of Alaska took – namely, the Emergency Order and resulting re-imagination of the Prince William Sound response system – probably had the most significant impact on how the resulting changes came about.

### Response System Pre- and Post- HB 567

The table below shows how the adoption of the HB 567 response planning standards drove a significant enhancement to spill response equipment in Prince William Sound. This comparison highlights how critical the spill volume is to driving a robust resident response capacity.

The creation of a capacity-based response planning standard drove a more systematic approach to developing oil spill response capacity. Prior to the new standards, equipment stockpiles were literally piles. The planning standard drove technical experts like the Norwegian/Alaskan team and the Alyeska group to look at the problem differently – how to assemble a force that could control and recover a specific volume within a specific timeframe. This lends itself to calculations that factor in recovery capacity, storage, and timing. Not only did the planning standard drive the industry to stockpile more equipment, it provided a framework for both industry and regulators to evaluate capacity in a straightforward and transparent manner.

The systematic approach also addressed other shortcomings illustrated during the 1989 spill – the need for trained people, well maintained equipment, and a common understanding about how response is organized and implemented.

Equipment and Requirements in Prince William Sound	Pre-1990 Response Planning Standard	Post-1990 Response Planning Standard
<b>Planning standard</b>	Pickup or remove median discharge in 48 hours, maximum probably spill in shortest time feasible	Contain or control and clean up within 72 hours a 300,000 barrel spill
<b>Boom</b>	~5 miles	~50 miles
<b>Skimmers</b>	13 units	~110 units 60,000 barrels per hour capacity
<b>On-water storage</b>	~12,000 barrels	~900,000 barrels
<b>Escort tugs</b>	Single escort for laden tankers through the narrows	Dual escorts throughout Prince William Sound
<b>Other equipment</b>	None	Pre-positioned equipment caches throughout Prince William Sound; nine additional prevention and response tugs

### Pick a Number

There are two very important numbers (besides 567) that come up again and again in the response planning standard legislative history: 72 and 300,000. According to numerous sources involved in the process, both are directly tied to the *Exxon Valdez*, both reflect significant discussion and compromise, and both are ultimately somewhat arbitrary.

Steve Cowper reflected that one of the major lessons of the *Exxon Valdez* was that “if you had that stuff you had to have it ready to go.”<sup>46</sup> The 72-hour standard that HB 567 created seems to have originated during the technical sessions in Valdez in the days after the spill, when experts from ADEC and the Norwegian Coastal Administration put their heads together to re-imagine a system that might have effectively combatted the spill.

<sup>46</sup> Personal communications with Steve Cowper, September 29, 2017.

They recognized the opportunity lost during the initial hours and days of the oil spill, when floating oil could have been contained and recovered before it began to thin and spread for hundreds of miles. Creating an immediate response capacity close enough to a possible spill site to mitigate the slick before it gets out of hand would require a time-bound planning standard. Three days, with a tiered capacity, seemed to strike the right balance.

**“I used...[72 hours]...because I was told to.”**

John McDonough, attorney, to Alaska House Resources Committee (February 26, 1990)

The 300,000-barrel standard was more a case of “nobody won, nobody lost.” The planning standard volume adopted into law and regulation was a compromise between those who wanted to build a response system that could handle the full volume of

the largest tankers coming into Valdez and those who feared such a system was financially and technically unfeasible.

The Cowper Administration and the technical experts from ADEC were firm in their beliefs that there had to be a hard number for the maximum spill volume and it had to be a large enough volume to compel equipment along the lines of the systems created by industry for the Interim Plan. In the end, they settled at an even number that was basically the *Exxon Valdez* oil spill volume rounded up. The 300,000-barrel standard was hard to shoot down, since it reflected an actual, recent, worst-case event.

Marilyn Heiman, who worked on the legislative staff for the Alaska House during the development of HB 567 and later on the regulatory process, observed that without a clear standard, compliance is determined based on subjective review. A clear standard corrects for regulator bias and creates a more predictable compliance framework for the regulated industry.<sup>47</sup>

Dennis Kelso, former ADEC Commissioner, frames this issue as one of perspective. Prior to the *Exxon Valdez* oil spill, the party line was that “industry is taking care of it.” The spill provided a rude awakening for stakeholders who assumed that “taking care of it” equated to being capable of cleaning up any spill they created. From industry’s perspective, “taking care of it” meant meeting the commitments in their contingency plan to maintain minimum equipment stockpiles. One of the accomplishments of measurable standards is that they create a common understanding of what is and is not going to be taken care of.

### Incentivizing Prevention

The realistic maximum oil discharge volume, which was established after much debate to

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<sup>47</sup> Personal communications, August 28, 2017.

be 60 percent of the total tanker cargo volume, ended up providing a powerful incentive for oil spill prevention. One of the major findings to come from the 1990 Alaska Oil Spill Commission Report was the importance of prevention, in light of the significant challenges to cleaning up marine oil spills. The additional out-of-region planning standard became the baseline for allocating prevention credits,<sup>48</sup> which allow a plan holder to plan for a reduced realistic maximum oil discharge volume if certain prevention systems are in place.

One of the changes that HB 567 introduced was to change the terminology for spill plans from oil spill contingency plans to oil spill contingency *and prevention* plans.

### Tiered Approach

The regulations established two different standards, similar to the tiered approach used in the Alyeska Interim Plan. An initial response planning standard required that operators have sufficient capacity to contain and recover 300,000 barrels in 72 hours. An additional layer requires sufficient resources available from out-of-region to clean up a spill of 60 percent of the total vessel cargo.

The system of prevention credits may be used to reduce the 60 percent volume, but cannot work around the 300,000 barrels in 72 hours standard. Conversely, the prevention credits are capped to ensure that no operators can use this incentive to zero out their out-of-region response planning standards.

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<sup>48</sup> Prevention credits are intended to create an incentive for operators to adopt prevention measures, which otherwise might not yield any tangible benefits to the company bottom line. There are differing opinions as to whether they have been successful.

## Chicken and Egg

The legwork that occurred in the wake of the Exxon Valdez created a bit of a head start for the legislative teams, who had a tangible example in hand of a standard (ADEC's Emergency Order) that could compel a significantly enhanced response system (Alyeska's Interim Plan). There was certainly robust and in-depth debate during both the HB 567 legislative process and subsequent rulemaking. But it could be argued that the foundational work that was done in March-April 1989, itself predicated on the details of the spill and the failed response, all worked together to create the system still in place today.

***"Nobody got everything they wanted, but in the end we all got something we could live with."***

Michael Williams, former BP attorney (9/25/2017)

## Planning vs. Performance

Much of the discussion about response standards emphasized that Alaska was establishing a standard for planning, rather than performance. This is essentially the same approach taken by the federal government under the Oil Pollution Act of 1990, and the foundation of oil spill preparedness in the United States.

While Alaska's response planning standard was successful in building a much larger, better maintained, geographically distributed cache of oil spill response equipment, no planning standard can guarantee that an oil spill will not still cause considerable harm.

Industry experts raised the point many times during the HB 567 process that the additional capacity being added to the Prince William Sound system is no guarantee that 300,000 barrels of oil would actually be contained and recovered during the first three days of a spill response. There are still a number of practical and logistical challenges associated with major marine oil spill response that were not solved by the creation of a stronger response planning standard.

Nonetheless, without a standard that requires sufficient equipment available close enough to rapidly deploy, there is no question whether the spill cannot be mitigated. If there is no equipment nearby, there is no immediate response.

The strong focus on in-region equipment that carried forward from the Emergency Order to the regulations as implemented ensured that there will be equipment nearby in Prince William Sound the next time it is needed.

**Given the nature of catastrophic spills, it is not expected that the response planning standards in HB 567 can be reflected in actual performance. It is doubtful 300,000 barrels could be completely cleaned up and that all needed equipment can be on scene within a 72 hour period. Throughout the legislative and regulatory development of HB 567, the regulated community has repeatedly stressed that the expectations in HB 567 are beyond the capability of technology and historical basis. For example, oil will elude containment and cleanup efforts; some oil will go ashore; weather, malfunctions and human performance will compromise efficiency, and all will contribute to an effectiveness that may be less than that which can be shown in a theoretical, mathematical planning model. Experience shows that a catastrophic spill will result in a long term (i.e., over many months or even longer) clean-up, which will be the "shortest practical time."**

*Excerpt from Chapter 4, "Process Engineering," in a report prepared by ECO Consulting that ARCO Marine, Inc. submitted to ADEC on October 1, 1993 regarding compliance with new state regulations*



## 6. Learning from History

Like the oft-quoted line about the Alyeska oil spill contingency plan and *Moby Dick*, there is another famous quote that is attributed to various parties. The Spanish philosopher George Santayana is generally believed to have originated a saying made famous by Winston Churchill, among others:

“Those who cannot learn from history are doomed to repeat it.”

This concept is certainly applicable to the issue of oil spill planning standards in Prince William Sound. Of the hundreds of people who had their hands in this process, the handful that were interviewed for this report returned to several common themes.

### Timing is Everything

It is an unfortunate but well-established fact that most of the environmental policy in place in the U.S. today was born of a major catastrophe.<sup>49</sup> The *Exxon Valdez* oil spill was a galvanizing event that created an imperative without which the current oil spill response planning standards – both in Alaska and federally – might not exist.

Regarding the impetus for legislative action, Steve Cowper observed, “If you strike at the right time you can get some results.”<sup>50</sup>

Dennis Kelso, Commissioner of ADEC at the time of the spill, offered that the *Exxon Valdez* had been a “major realigning event” for both Alaska and the U.S.

Much like the window-of-opportunity for mounting an effective on-water oil spill

response, the chance to move from environmental catastrophe to policy change is time bound. Eventually, public and political will dissipates and the opportunity is lost.

### Team of Rivals

In the wake of the spill, the term “complacency” was tossed around in the media, the legislature, and among stakeholders harmed by the spill. There was no denying that the system had failed, and this compelled a multilateral process to change it. Mike Williams, who worked for BP at the time, describes the process as “many different teams working toward the same goal.” Steve Cowper recalls that the industry could not afford to come out too aggressively against the state’s initiatives, because they had lost so much public trust after the oil spill.

Certainly, the industry representatives who worked on this issue along the way were advocating for the least burdensome changes, while regulators and stakeholders were pushing for the highest possible standards. But there was a general acceptance that changes would take place and this helped everyone to focus on the substance of those changes. From the initial strategy sessions within ADEC and later by the Alyeska technical team that put together the Interim Plan, there was a strong focus on the system elements that should be in place. The level of compromise and the underlying tensions were real, but the oil spill had created a strong enough imperative to keep the process moving forward toward concrete objectives.

<sup>49</sup> For example, the Clean Water Act is often attributed to the heavily polluted Cuyahoga River in Cleveland catching fire in 1969. <https://www.alleghenyfront.org/how-a-burning-river-helped-create-the-clean-water-act/>

<sup>50</sup> Personal communications with Steve Cowper, September 29, 2017.

***“Opinions as to what to include in the bill were so diverse that compromise seemed impossible. Senator Pearce resolved this conundrum by locking Riki [Dr. Riki Ott, with Cordova District Fishermen United] and me in a room and threatening to throw away the key if we didn’t reach a compromise. After many days, with David Rogers acting as moderator, compromise language was thrashed out. The language reflected the task force’s plan, plus a lot of additional protection for villages and hatcheries. Both Riki and I were ostracized by our respective constituencies for the compromise, but much of the legislation that emerged from that compromise was then used by U.S. Sen. Frank Murkowski as a basis for OPA 90, the federal Oil Pollution Act that governs oil transportation in the U.S. today.***

***I hope Riki is as proud of that effort as I am.”***

Mike Williams of BP during the HB 567 process, in “How the Exxon Valdez spill gave birth to modern oil spill prevention plans,” Alaska Dispatch News (March 18, 2014).

In addition to the tensions between stakeholders, industry, and regulators, there were also significant tensions among the oil companies represented in the Alyeska consortium. Both the legislative record and the rulemaking process provide examples of how the various oil companies involved did not always share the same positions or priorities. Drue Pearce reflected that one of the key takeaways for the State of Alaska from the post-spill legislative process should be the incredibly “unwieldy” structure of a consortium-run pipeline.

The legislative process brought many of the more contentious issues to a head and was where the some of the most heated discussions occurred and the most significant compromises struck. Republican and Democratic legislators worked closely together, united by outrage at the spill and its impacts to their constituents. Drew Pearce noted that the process of accommodating so many divergent opinions made the process

challenging, but in the end helped the workgroup to make the “most informed decisions possible.” The outcome was a successful legislative package that achieved its goal of compelling a more robust oil spill response system in Prince William Sound and statewide.

### Scanning the Globe

The Sullom Voe Terminal in the Shetland Islands was a frequent topic of discussion during interviews for this report. During the time period immediately after the spill through implementation of the new statutes, several key individuals, including Drue Pearce, Governor Cowper, and Mike Williams, took field trips across the globe to see firsthand what a major marine oil spill response system looked like outside of the U.S. What they observed helped to ground future discussions and counter some of the industry arguments that the proposed standards were not achievable.

Steve Cowper recollects quietly visiting Sullom Voe and talking with U.K. spill response experts about their standards, which he described as being “much more responsible” than anything in place in Alaska or the U.S. He credits this visit and the technical information gleaned by the Alaskan delegation as being important to ground truthing future discussions, and shutting down some of the counter-arguments that Alaska was setting the bar too high.<sup>51</sup>

Looking beyond the U.S. context can be extremely useful in evaluating oil spill response planning requirements, given that shipping is a global industry. While the Prince William Sound oil spill response system is often referenced as an example of world class response preparedness, there are other ports across the globe with comparable or more stringent standards in place.

<sup>51</sup> Personal communication with Steve Cowper, September 29, 2017.

## Transparency

The Cowper Administration and ADEC leadership are both to be credited for leveraging transparency as a way to hold Exxon and Alyeska accountable during the spill response. This in turn influenced a contingency planning process that is significantly more transparent than the federal process, and a response system that includes active participation from local stakeholders.

In the initial hours of the oil spill, Steve Cowper and Denny Kelso climbed a rickety ladder to board the *Exxon Valdez*, with fresh oil bubbling out of her hull. Their immediate reaction was “where is everybody?” and “why isn’t anybody doing anything?” There were two boats on the water “towing boom in circles” while the spill gushed out, virtually unabated. The two flew from there to a community meeting in Valdez, where they began a campaign to share the “unvarnished truth” at every possible opportunity.

Occasionally, there would be press briefings or public meetings where Exxon and Alyeska would share information about where equipment was being sent. The state validated this with information gathered during their own overflights, and shared what they knew with the public, even if it didn’t support Exxon’s messaging.

When there was an extra seat on an overflight, the state brought a local fisherman or community leader along. At a community meeting early on in the spill, when somebody theorized that they would be more effective by getting the local fishing fleet out there with nets and buckets, the state provided the support to make it happen. Eventually, Alyeska/SERVS modeled a fishing vessel response program in its likeness, and the same program is still several hundred vessels strong.

One of the most important aspects of Alaska’s oil spill contingency planning

regulations is the provision for public review of all planning documents. There are many regimes where contingency plans are kept out of the public realm, which can create a lack of trust and accountability. In Alaska, anyone who wants to understand what the Prince William Sound shipping companies, or any oil operator, plans to do in the event of a spill has the opportunity to read and – during public comment periods – provide feedback to industry and regulators.

## State and Federal Synergy

There is very little in the formal record to document the coordination between the legislative processes in Washington, D.C., and Alaska, but based on interviews with several of the firsthand participants, the two processes were closely linked.

Given the state/federal pre-emption lawsuits that have traditionally created tension between state and federal governments in the realm of tanker operations (e.g., *Chevron vs. Hammond*), it would not have been surprising if there had been discord between Alaska’s efforts and those of the U.S. Congress. But Steve Cowper recalls just the opposite – he felt that Alaska was compelled to demonstrate to Washington that the state was doing everything in its power to fix the problems that the *Exxon Valdez* spill uncovered, and that there was an alignment of the parallel efforts.

Drue Pearce has a similar recollection, and noted that staffers from her committee were in frequent contact with their counterparts in D.C., sharing drafts of the Alaska bills as they were revised. She also recalls a strong link through U.S. Coast Guard leadership in Alaska and D.C.

Industry participants also had a stake in coordinating the state and federal efforts, and there was another level of communication and coordination among industry advocates in Juneau and Capitol Hill.

Stakeholders, activists, and the newly formed regional citizens advisory councils also took an active role in the regulatory process and in promoting public participation and informed debate throughout the process.

### **Pride of Accomplishment**

Individuals interviewed for this report included present and former politicians, legislators, industry representatives, technical experts, and ADEC staff. They each provided their reflections on the events they lived through during 1989-1991, and their perspectives shaped the narrative in this report.

There was one striking similarity across all interviews – each and every individual expressed a personal sense of pride in what had been accomplished. Most of the events that were discussed occurred over 25 years ago, and some details were harder to recall

than others. But without fail, each of these remarkable individuals – all of whom went on to have substantial success in their respective fields – looked back on HB 567 as a proud achievement and a highlight of their careers.

Mike Williams took the time to write an opinion piece for the Alaska Dispatch News on the 25<sup>th</sup> anniversary of the *Exxon Valdez* spill, reflecting back on the late nights at the Captain Cook Hotel as establishing the “core parameters of a 100-page plan that became the foundation of all modern spill response plans.” He continued, “During those two days at the Captain Cook Hotel in April 1989 I don't think any of us could have imagined that outcome.”

David Rogers, who many credit with closing the deal in the legislature, recalls a “beautiful experience” despite the high stakes and strong emotions.

## **7. Conclusion**

This report collates the written record with personal recollections to describe the imperative behind Alaska's oil spill response planning standards.

On face value, the legislation itself paints a clear picture of the intent behind the oil spill planning and response law and the regulatory framework it created. In order to ensure an adequate capacity to respond to oil spills anywhere in Alaska, industry must equip, train, and exercise a system that can assure rapid and robust initial response, followed up by a long-term plan to bring in equipment and people to manage a worst case spill.

Nearly thirty years have elapsed since the *Exxon Valdez* oil spill, and the sense of urgency experienced in the days, weeks, and years spent cleaning up from that spill has faded from the collective memory. It is critical that future leaders, both in industry and government, remain cognizant of the

history that underlies the present oil spill contingency planning system. Alaska's response planning standard was a hard-won accomplishment of a diverse group in the wake of a life-changing disaster. If there is ever any question as to its value, one might imagine the fallout if a tanker were to run aground tomorrow, while a meager equipment pile lay frozen under 10 feet of snow.

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# EXHIBIT 3

Excerpt from Alaska Regional Contingency Plan  
(August 2018)

# Alaska Regional Contingency Plan

Version 1

FINAL  
August 2018

<http://dec.alaska.gov/media/10698/alaska-regional-plan.pdf>





# Alaska Regional Response Team

August 9, 2018

## ARRT

Environmental  
Protection Agency

United States Coast  
Guard

Department of  
Commerce

Department of the  
Interior

Department of  
Agriculture

Department of  
Defense

Department of Justice

Department of Health  
and Human Services

Federal Emergency  
Management Agency

General Services  
Administration

Department of Energy

Department of Labor

Department of  
Transportation

State of Alaska

Dear Recipient:

Attached is the Alaska Regional Contingency Plan (RCP). This RCP serves as guidance to planners preparing for a coordinated Federal, State, and local response to a discharge, or substantial threat of discharge of oil and/or a release of a hazardous substance from a vessel or on/offshore facility operating within Alaska's boundaries and surrounding waters. The State and Federal On-Scene Coordinators shall use this guidance, in conjunction with the National Contingency Plan, to inform and support the Area Committee within each planning area in building their respective Area Contingency Plan.

The RCP is compliant with Section 300.210 of the National Contingency Plan and Alaska Statute 46.04.200.

The Alaska Regional Response Team, under the direction of the Co-Chairpersons, will review the RCP annually and update as necessary. We welcome your ideas to improve the plan. Please direct your correspondence to the following addresses:

The Alaska Department of Environmental Conservation  
Prevention, Preparedness and Response Program  
555 Cordova Street  
Anchorage, AK 99501

U.S. Coast Guard, Seventeenth District  
Plans and Force Readiness Division (dx)  
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U.S. Environmental Protection Agency, Region 10  
Alaska Operations Office, Federal Building (Room 537)  
222 West 7th Ave, #19  
Anchorage, AK 99513

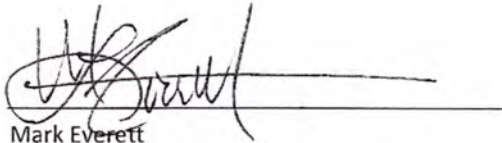
The RCP supersedes the *Alaska Federal/State Preparedness Plan for Response to Oil & Hazardous Substance Discharges/Releases (Unified Plan)*.

This plan and updated versions will be available on the following websites:

<http://www.alaskarrt.org>

<http://dec.alaska.gov/spar/ppr>

This document is hereby approved by the Co-Chairpersons of the Alaska Regional Response Team (ARRT).

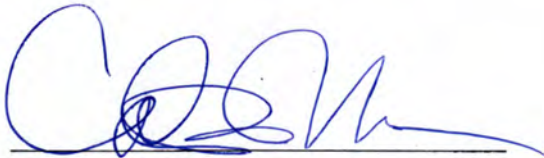


Mark Everett

U.S. Coast Guard, Seventeenth Coast Guard District  
U.S. Coast Guard Representative to the ARRT

9 AUG 2018

Date

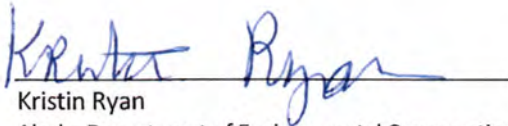


Calvin Terada

U.S. Environmental Protection Agency, Region 10  
U.S. Environmental Protection Agency Representative to the ARRT

14 Aug 2018

Date



Kristin Ryan

Alaska Department of Environmental Conservation  
State of Alaska Representative to the ARRT

9 Aug 2018

Date

• • • •

- Identification of facilities and transportation routes;
- Establishing emergency response procedures for public notification and protection, including evacuation;
- Establishing notification procedures for those who will respond;
- Establishing methods for determining the occurrence and severity of a release;
- Identification of emergency response equipment;
- A program and schedule for training local emergency responders;
- Establishing methods and schedules for exercises;
- Designating a community emergency coordinator and facility emergency coordinators to carry out the plan;
- Describing an Incident Command System; and,
- Integration with other state-required plans and consideration of elements within approved oil discharge prevention and contingency plans.

Although original federal requirements focused LEPC planning and preparedness efforts on Extremely Hazardous Substances (i.e., chemicals, not oil), on September 25, 1990, the Alaska Legislature and the Alaska State Emergency Response Commission broadened that focus to include oil and petroleum products.

Per AS 26.23.060(e), “each political subdivision shall ensure that a written local or inter-jurisdictional disaster emergency plan for its area is prepared, maintained, and distributed to all appropriate officials. This disaster emergency plan must include a clear and complete statement of the emergency responsibilities of all local agencies and officials.”

## **C. AUTHORITY**

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### **1. Federal**

The RCP is developed pursuant to Sections 300.210 of the NCP. The NCP is required by Section 105 of CERCLA, as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), by Section 311(d) of CWA, as amended by OPA. The ESF 10 components of this plan are required by the Robert T. Stafford Disaster Relief and Emergency Act (Public Law 93-288), as amended. The RCP is applicable to response actions taken pursuant to the authorities under CERCLA, Section 311 of CWA, and OPA. The NCP requires establishment of RRTs, which are responsible for Regional planning and preparedness activities before response actions, and for providing advice and support to the RRT when activated during a response.

OPA 90, section 4202 amended Subsection (j) of Section 311 of the Federal Water Pollution Control Act (FWPCA; 33 U.S.C. 1321 (j)) to address National Planning and Response System development. As part of this system, Area Committees are to be established for each area designated by the President. These Area Committees are to be comprised of personnel from federal, state, and local agencies. Each Area Committee, under the direction of the Federal On-Scene Coordinator (FOSC) and State On-Scene Coordinator (SOSC) for the area, is responsible for developing an ACP, which when implemented in conjunction with the NCP, shall be adequate to remove a worst case discharge and mitigate or prevent a substantial threat of such discharge from a vessel, offshore facility, or onshore facility operating in or near the geographical area. Each Area Committee is also responsible for working with state and local officials to preplan for joint response efforts, including designing appropriate procedures for mechanical

recovery, chemical dispersal, shoreline cleanup, protection of sensitive environmental areas, and protection, rescue, and rehabilitation of fisheries and wildlife. The Area Committee is also required to work with State and local officials to expedite decisions for the use of dispersants and other mitigating substances and devices.

The functions of designating areas, appointing Area Committee members, determining the information to be included in ACPs, and reviewing and approving ACPs have been delegated by Executive Order 12777 of 22 October 1991 to the Commandant of the U.S. Coast Guard (through the Secretary of Transportation) for the coastal zone and to the Administrator of the Environmental Protection Agency for the inland zone. The term "coastal zone" is defined in the current NCP (40 CFR 300.5) to mean all United States waters subject to the tide, United States waters of the Great Lakes, specified ports and harbors on inland rivers, the waters of the Exclusive Economic Zone (EEZ), and the land substrata, ground waters, and ambient air proximal to those waters. The term "inland zone" is defined in the current NCP to mean the environment inland of the Coastal Zone. These terms delineate an area of responsibility for response action. Precise boundaries are determined by existing federal and State agency memoranda of understanding/agreements (MOU/MOA). Part 4 of this plan contains current MOUs and MOAs regarding coastal and inland zone response boundaries.

In Volume 57, Federal Register Notice 15001 published on April 24, 1992, the EPA and USCG jointly announced the Designation of Areas and Area Committees under OPA for inland and coastal zones. Due to the split of jurisdiction and responsibilities between EPA and the USCG and the inherent differences in organizational structure of the two agencies, each agency took separate but compatible approaches in establishing initial designations. Nationwide, the EPA designated the existing 13 "RRT areas" as the initial areas for which ACPs must be prepared in the Inland Zone, while the USCG designated the coastal portions of the existing Captain of the Port (COTP) zones as the initial areas for which ACPs must be prepared in the Coastal Zone. In Alaska, this has the effect of initially establishing one statewide inland area by EPA and three coastal areas, corresponding to the boundaries of the three USCG COTP zones. Both EPA and USCG have authority to further subdivide initial Areas, both coastal and inland, into smaller, more localized areas for which ACPs can be developed. See Parts 1.D and 1.E of this plan for specific areas.

Also, per the National Contingency Plan, the Department of Defense (DOD) and the Department of Energy (DOE) shall provide their own FOSCs, who will be responsible for taking all response actions to releases of hazardous substances, pollutants, or contaminants when the release is on, or the sole source of the release is from, any facility or vessel (including bareboat-chartered and operated vessels) under their jurisdiction, custody or control.

## **2. State**

The State Oil and Hazardous Substance Discharge Prevention and Contingency Plan (State Master Plan) was prepared by the Alaska Department of Environmental Conservation (ADEC) as required by AS 46.04.200. The State Emergency Response Commission (SERC) reviews the plan as required by AS 26.23.077.

Under AS 46.03.020(10)(A), the ADEC is empowered to adopt regulations providing for the control, prevention, and abatement of all forms of pollution.

.....

In 1980 legislation was enacted which defined the State's policies regarding oil spills. The purpose of this law is to provide for the safety and protection of human health and welfare of Alaskans from damage resulting from oil spills and to provide the ability to clean up a spill and restore damaged areas.

The Findings and Intent section of Chapter 116 SLA 1980 ("An Act relating to the prevention and control of oil pollution; and providing for an effective date") clearly sets forth state policy:

- It is a matter of the highest urgency and priority to protect Alaska's coastal and inside water, estuaries, wetlands, beaches and land from the damage which may be occasioned by the discharge of oil;
- The storage, transfer, transportation and offshore exploration for and production of oil within the jurisdiction of the State are hazardous undertakings; oil discharges may cause both short-term and long-term damage to the environment and the beauty of the state, to owners and users of affected property, to public and private recreation, to residents of the state and other interests deriving livelihood from fishing, hunting, tourism and related activities;
- Assuring sufficient capability, among industrial and commercial interests, and the State and federal governments, to contain and clean up discharges of oil is of vital public interest; weather conditions, logistic constraints and the relative paucity of labor and equipment resources in the state increase the difficulty of oil discharge containment and cleanup in Alaska, making imperative an active State role;
- It is the policy of the State that, to the maximum extent practicable, prompt and adequate containment and cleanup of oil discharges is the responsibility of the discharger; it is therefore of the utmost importance to assure that those engaged in oil storage, transfer, transportation, exploration and production operations have sufficient resources and capabilities to respond to oil discharges, and to provide for compensation of third persons injured by those discharges; and
- The State should continue its cooperative relationships with appropriate federal agencies, protecting its legitimate interests while working to remove any duplicative or potentially conflicting regulatory activities.

In 1989, legislation was enacted by the Alaska Legislature to further strengthen the State's capability to deal with oil spills:

Findings and purpose:

- The Legislature finds that the March 24, 1989 oil spill disaster in Prince William Sound demonstrates a need for the State to have an independent spill containment and cleanup capability in the event of future discharges of oil or a hazardous substance.
- The purpose of this Act is to assure people of the state that their health, safety and well-being will be protected from adverse consequences of oil and hazardous substance releases that present grave and substantial threats to the State's economy and environment.

In 1990, the law was revised again. In order to meet the goal of protecting Alaska's people and environment, AS 46.04.200 set forth required Plan elements:

- To take into consideration the elements of an oil discharge contingency plan approved or submitted for approval under AS 46.04.030;

- To include an incident command system that clarifies and specifies responsibilities for State, federal, and municipal agencies, facility operators, and private parties whose property may be affected by a catastrophic oil and/or hazardous substance discharge;
- To identify actions necessary to reduce the likelihood of catastrophic oil discharges and significant discharges of hazardous substances.

Alaska Statutes, Sections 46.04.200-210 specify state requirements for Oil and Hazardous Substance Discharge and Prevention Contingency Plans. This RCP, along with the ACPs, were written with the goal that they would meet both federal and State planning requirements in Alaska.


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# EXHIBIT 4

Petroleum News - Alyeska to shrink workforce by 10 percent as company restructures (September 9, 2018)



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Providing coverage of Alaska and northern Canada's oil and gas industry  
September 2018

Vol. 23, No.36 Week of September 09, 2018

## Alyeska to shrink workforce by 10 percent as company restructures

Alan Bailey  
*Petroleum News*

Alyeska Pipeline Service Co., the operator of the trans-Alaska pipeline, expects to shrink its workforce by 10 percent in conjunction with a major restructuring of the company. Tom Barrett, the company president, has announced in a letter to Gov. Bill Walker, Alaska legislators and state commissioners. The job losses will impact both company employees and contractors.

Barrett said that following an initiative launched in 2017, to investigate ways whereby Alyeska could remain technically and economically viable through the coming decades, the company had developed a plan that would simplify processes by focusing on maintenance; would optimize the company's operating infrastructure; would continue with technical innovation; and would strengthen the company's high performance culture.

Barrett commented that, directly or indirectly, his company primarily engages in activities focused on the maintenance of the pipeline and Valdez Marine Terminal infrastructure. However, the manner in which the company is currently organized is more appropriate for a construction company, he said. Consequently, the company is realigning into three divisions: operations and maintenance; engineering and risk; and chief operating officer. The leadership is already in place for this reorganization and has begun planning how to implement the new business strategy. This strategy includes the clarification of decision authority and the delegation of decision making to managers in the field, expediting decision making and actions through the empowerment of people in the work environment.

### Simplified processes

The new strategy also involves simplifying maintenance processes, to better identify high priority work while also applying risk-based decision criteria for completing that urgent work and conducting other maintenance work quickly and efficiently. The company plans to use its engineering and risk management expertise to improve and strengthen its technical controls. And the emergency planning and response functions for the pipeline, the marine terminal and the marine escort system out of Valdez will be centralized. The company will continue to expand the use of modern technology.

Most jobs in the company will be impacted in some way by the various changes, and the size of the workforce will drop, with negative impacts for some and new opportunities

for others, Barrett wrote. Alyeska anticipates notifying all employees by early November of actions affecting them, he wrote.

“It will be a fundamental and challenging change to our work, but one that is necessary to ensure the future operational reliability and efficiency of TAPS,” Barrett wrote. “I am acutely sensitive to the impacts this will have on our people, who in the past and moving forward are the foundation of our success.”

- ALAN BAILEY

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# EXHIBIT 5

Findings of the AOSC (January 9, 1990)

Findings of the Alaska  
Oil Spill Commission

Presented to the  
National Transportation Research Board  
Panel on  
Oil Transportation Issues

Walter B. Parker  
Chairman  
Alaska Oil Spill Commission  
707 A Street  
Suite 202  
Anchorage, Alaska 99504  
(907) 258-6545

January 9, 1990

The seven member Alaska Oil Spill Commission was created by the Alaska Legislature and appointed by the Governor of Alaska to accomplish three major tasks:

To establish a historical record of the events leading to the wreck of the Exxon Valdez.

To recommend ways to prevent future maritime accidents.

To recommend better ways to respond to future oil spills.

At our first meetings we quickly agreed to place our major focus on prevention of maritime accidents and future oil spills. In this we joined the federal administration, the Congress, the American Petroleum Institute and the environmental movement who profess a similar goal on prevention. Therefore, with so much agreement it would seem easy to have our recommendations on prevention adopted. However, the view of prevention from the oil industry may be very different from our view, the view from the federal administration may also be very different.

Our investigation of the events leading to the wreck of the Exxon Valdez revealed one salient theme - that the rules and regulations agreed on between the federal government, the oil industry and the State of Alaska in 1977 when the Valdez terminal was opened were consistently downgraded or ignored after 1979. The event that triggered this decline was the lawsuit launched by the oil industry against the state of Alaska, Chevron, et. al. vs Hammond which challenged the state's rights to be involved in prevention of tanker accidents through maintaining a presence alongside and in cooperation with the Coast Guard. A federal judge found against the state and ruled that the state's actions were pre-empted by the federal government. From then on both the Coast Guard and the oil industry began to weaken the original system more and more. Our historical record is contained in our report by investigator Peter Spivey titled Institutional Influences: The Coast Guard in Valdez. Tankers consistently deviated from the lanes established in 1977 for more and more specious reasons, the main reason being to save time. The same narrow economic views on tanker operations that put the Torrey Canyon on the rocks in 1968, operated again in 1989 to put the Exxon Valdez on Bligh Reef.

Our recommendations for prevention focus on the ships, the crews and the support systems designed to keep ships safe at sea.

We recommend double hulls become the domestic and international standard for oil tank vessels. We also recommend that our aging fleet be replaced on an accelerated basis. The great overbuilding of oil tankers that occurred from 1965 to 1975 is now coming home to roost since so few new tankers have been built in the past decade. We also recommend that strong consideration be given to more redundancy in power plants. Finally, a much closer look should be given to the new standards which lessen steel weight in the newest tankers being built, the Exxon Valdez being an example of a ship built to those standards.

In crews we have found that fatigue is a real factor that promises to become worse as crew size reductions are justified more and more on the basis of greater automation. Not only crew fatigue but system redundancy suffers from these reductions, since when the automated system fails there is often no immediate response available from a crew member to institute manual overrides. Some power plant failures of automated systems in the past two years need much more in depth investigation than has been given them thus far.

We also found that more on going training was necessary and that training varied widely from company to company. Institution of bridge response training on simulators should be pursued and requirements established to ensure that all do it. More stimulator training for engine rooms is also indicated in view of the lengthy start up times that have occurred after some power plant failures.

Our recommendations on support systems focus on much more stringent vessel traffic systems than the present systems. We believe vessel monitoring systems better describe what is necessary for maritime traffic. Ideally through either Loran C retransmits, satellite navigation or other systems, we will provide an electronic display on the bridge and at the vessel traffic centers which will be a display common to both. This will provide greatly expanded and more reliable coverage than radar at lesser cost, while keeping present shipboard and shore based radars in place. The aim again is systems redundancy.

System redundancy in hulls, power plants, navigation systems, manning standards and other areas is one key to prevention. The other is increased training in all assignments to ensure that crews are up to the sophisticated ships that are planned in the future.

Our recommendations on response focus on the use of the federal Incident Command System (ICS) which is used for response to natural disasters and hazard material incidents, for oil spill response. The ICS is a management system which uses the expertise of all federal and state agencies as necessary by using a system of preplanning that assigns roles to appropriate individuals within the agencies and provides them the training for carrying out those roles.

We view this as filling the many organizational gaps that developed in the response to the Exxon Valdez. The National Contingency Plan (NCP) did not operate effectively in this response, indeed in the early stages did not operate at all. Eventually it brought the Navy and other major help into spill clean up.

Generally, our ideal response organization starts with a strong local base in which regional response teams are created through using the ICS structure. These teams will use the resources of private, state and federal organizations in their response area. The spill will be under command of a government official, as designated by the ICS. The Oil Spill Commission strongly urges that there be no future privatization of major spills, a view joined by the Congress and the American Petroleum Institute thus far.

The next level of response is thorough interaction of our recommendations for interstate compacts with the federal regional response organizations. We view a West Coast compact working with the West Coast strike team as providing immediate response as necessary to calls for assistance from the local spill incident commander. Then, if necessary, the federal "czar" that is mandated in present legislation before the Congress and is strongly supported by the industry and the federal administration can be brought into the action to mobilize support nationwide.

Our perception is of an organization mobilizing from a local base outwards while their's is one that mobilizes from the top down. It is an important difference in perception.

We have noted in our record the general lack of federal resources devoted to oil spill response, especially in the areas of research and development. We feel this generally kept the NCP from being an effective instrument and it is imperative that a program to get caught up from a decade of federal passiveness on this issue be launched immediately.



Since we only recover 10% of the oil lost in most spills now, the need for rapid upgrading is clear. This however, in no way should detract from our continued emphasis on prevention, since even the best spill response systems will leave large quantities of oil in the water

# EXHIBIT 6

Testimony of AOSC Chair Parker and Findings  
(January 24, 1990)

TESTIMONY TO THE JOINT HEARING  
OF THE  
ALASKA HOUSE RESOURCES COMMITTEE  
ALASKA SENATE RESOURCES COMMITTEE  
ALASKA SENATE OIL AND GAS COMMITTEE

BY

WALTER B. PARKER

CHAIRMAN

ALASKA OIL SPILL COMMISSION

JANUARY 24, 1990

The Alaska Legislature charged the Alaska Oil Spill Commission with reporting on the historical record of events leading to the grounding of the Exxon Valdez on March 24, 1989. The Commission began its inquiry with the first planning for moving Prudhoe Bay oil to market in 1968 and concentrated on the period after 1977 when the Valdez terminal opened and began the first shipment of crude oil.

Despite early assurances by the federal government in the period 1968-72, that tanker operations from Valdez would be at the top of the state-of-the-art, including double bottoms, by 1975 it was clear that no special efforts would be made on the Valdez - West coast operations. Replies from the Coast Guard to state inquiries made it clear that the promised improvements would not be mandated.

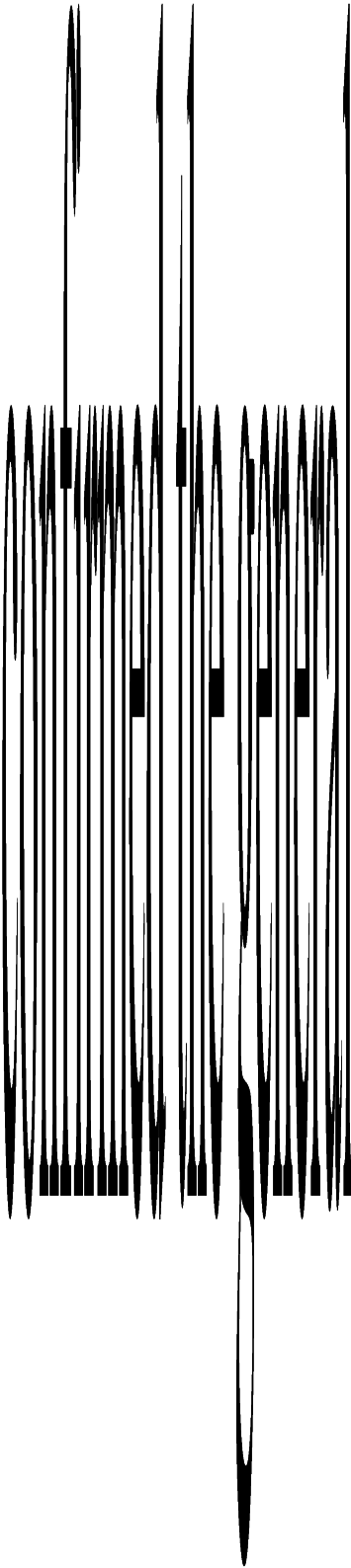
A task force was formed by Governor Hammond in 1975 to investigate means to insure that Valdez operations would be the best feasible. Two years of concerted effort resulted in agreements that tankers would proceed in designated lanes through Prince William Sound; that they would have tug escorts in the Sound; that a vessel traffic system would monitor tanker traffic in the Sound; that state pilots would be on board while in the Sound; that redundancies in radar and other navigation systems would be on board the tanker; and that ice problems would be handled by slowing to minimum safe maneuvering speed while

remaining in the tanker lanes.

Sea trials were held to check the system in April, 1977 using the Arco Fairbanks. The trials were successful. The key to the system was the tanker lanes which had been designed through the first simulation ever conducted of a North American port. This was done under the auspices of the State of Alaska and was funded by the State under the terms of the TAPS ACT.

Meanwhile, the Alaska Legislature had in 1976 passed SB 406, which established risk charges paid by operators of tank vessels and oil terminals into the Alaska Coastal Protection Fund. The mandates of AS30.20 and AS30.25 established various levels of constructions and operations standards for tankers and terminals, which set up reductions of charges tied to specific improvements. The aim to minimize risk and operations was carried out under this mandate until 1979. The Valdez terminal was operational with a permanent response crew in position and with response vessels and equipment on constant standby.

Tankers with double bottoms were constructed in this period to meet the state's requirements specifically the Bankers Trust Alaska and the Bankers Trust San Diego. The Department of Environmental Conservation set its budget year objectives for FY 1979 to have 10 tankers in the fleet serving Valdez with double bottoms.



On 1977 about 10 years as the United States entered the  
economic recession period with respect to the state to construct 1975-76  
and 1976-77 on the basis that the Federal government pro-posed  
most of the costs the state was attempting to recover. The work  
continued on the basis of the agreement and in 1978, the state's  
authority was restored. The state assumed part of the balance  
but the total amount of the situation was agreed to payment  
between the oil companies and the state. Our research indicates  
that the state took an increasingly weak position throughout the  
year.

After 1978, no new double bottom were built by the industry.  
The only one built, the Basin Oilfield and the Basin Long Beach, were  
developed not only with double bottom but with one level more depth  
than facilities designed in the 1970s for the Pacific coast. These  
ships were finished in 1980 and other three years operations there  
and reports of early operations failures.

The Commission notes to have suggested earlier that they  
consider installing the Basin Oilfield with a double bottom while it  
was in the process. We might also mention in this regard. The  
cost of installing the Basin Oilfield was reported to be about 100  
million. Our committee report a double bottom would have cost  
more at 100 million more. The Basin Oilfield will be returned to  
service without a double bottom.

As our investigations detail, Coast Guard surveillance and enforcement of tanker operations declined rapidly after 1979. Officers who operated the system before 1979 were shocked at how routinely departures from the tanker lanes was accepted in the 1980s.

We also confirmed the general collapse of the oil spill response system after 1979, largely under Aleyska's initiatives, despite constant complaints from the ADEC office at Valdez to Juneau ADEC headquarters about the weakness of the system.

Partly ADEC's lack of action was due to budget constraints imposed by the Legislature, but the record also reveals a lack of strong resolve and focus on the Valdez terminal operations at the higher levels in the Department.

It is also important to note that there is absolutely no indication that either of the federal agencies responsible for the National Contingency Plan, the EPA and the Coast Guard, took any action in the 1980s to insure that the response system at Valdez was adequate.

It is equally important to note that no other elements of the state government made any strong efforts since 1979 to encourage ADEC to a more vigorous position on oil spill response at Valdez.

At least, we could not identify any such efforts.

We investigated Cook Inlet oil spill response and tanker operations, found them deficient and have made recommendations for improvements.

We also investigated Arctic response capability and have found it to be non-existent except in the immediate Prudhoe Bay area, where it is minimal.

The point was made immediately after the wreck of the Exxon Valdez that 8700 transits of Prince William Sound had been made without a disaster. This is not a good record and would result in an unacceptable level of accidents and fatalities if accepted for any other form of transportation.

Many still state that the Exxon Valdez was an aberration, an accident that was a fluke. Our investigations show that the system has been encouraging a catastrophic accident since 1979 by eliminating every safeguard that was put in the system then. The Exxon Valdez went on the rocks because it departed from the tanker lanes at sea speed rather than slowing down to proceed through the ice at reduced speed. Time pressures were put on all tanker masters, some companies putting on greater pressure than others. Both the Torrey Canyon and the Amoco Cadiz disasters were initiated by masters cutting corners to save time.



We are happy to note that tankers are now operating from Valdez in accordance with the original rules laid down and that response capability has been improved dramatically. However, the present response system will only recover 40% of spilled oil under ideal conditions, so improvements can still be made.

However, the ships operating in the system are an aging somewhat decrepit fleet of which 73% are single bottom hulls. Their power plants are aging along with their safety systems. they are below standard compared to both national and international standards in age. Some say the fleet cannot be replaced because Alaska oil production is declining. We say it must be replaced to ensure that another catastrophe does not destroy another vital segment of our Coast line.

**Findings of the Alaska  
Oil Spill Commission**

**Presented to the  
National Transportation Research Board  
Panel on  
Oil Transportation Issues**

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Chairman  
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The next level of response is thorough interaction of our recommendations for interstate compacts with the federal regional response organizations. We view a West Coast compact working with the West Coast strike team as providing immediate response as necessary to calls for assistance from the local spill incident commander. Then, if necessary, the federal "czar" that is mandated in present legislation before the Congress and is strongly supported by the industry and the federal administration can be brought into the action to mobilize support nationwide.

Our perception is of an organization mobilizing from a local base outwards while their's is one that mobilizes from the top down. It is an important difference in perception.

We have noted in our record the general lack of federal resources devoted to oil spill response, especially in the areas of research and development. We feel this generally kept the NCP from being an effective instrument and it is imperative that a program to get caught up from a decade of federal passiveness on this issue be launched immediately.

Since we only recover 10% of the oil lost in most spills now, the need for rapid upgrading is clear. This however, in no way should detract from our continued emphasis on prevention, since even the best spill response systems will leave large quantities of oil in the water

# EXHIBIT 7

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(1) "commission" means the Alaska State Emergency Response Commission;

(2) "council" means the Hazardous Substance Spill Technology Review Council;

(3) "hazardous substance" has the meaning given in AS 46.03.826.

\* Sec. 25. TRANSITIONAL PROVISION. The Alaska State Emergency Response Commission established under AS 46.13, enacted by sec. 24 of this Act, is a continuation of the Alaska State Emergency Response Commission established by Administrative Order No. 103. The terms of the public members of the commission who are serving terms on the effective date of this section continue until the date that was scheduled for their expiration before the effective date of this section.

\* Sec. 26. TESTING PROTOCOLS. The Hazardous Substance Spill Technology Review Council shall establish the initial testing protocols required under AS 46.13.120(2), enacted by sec. 24 of this Act, by January 1, 1991.

\* Sec. 27. APPROVAL OF SPILL TECHNOLOGY. The Department of Environmental Conservation shall, by March 1, 1991, report to the legislature its recommendations about the feasibility of establishing a process under which all types of oil and hazardous substance spill technology would have to be submitted to the department for approval before they could be used in the state.

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LAWS OF ALASKA

1990

Source

SCS CSHE 567(Fin)

Chapter No.

191

AN ACT

Relating to oil discharge prevention and contingency plan requirements, financial responsibility requirements related to oil, penalties, and inspection authority of the Department of Environmental Conservation; relating to the oil and hazardous substance release response fund and responses to oil and hazardous substance emergencies; authorizing the Department of Environmental Conservation and municipalities to enter into agreements pertaining to vessel traffic control and monitoring systems; and providing for an effective date.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

THE ACT FOLLOWS ON PAGE 7, LINE 18

UNDERLINED MATERIAL INDICATES TEXT THAT IS BEING ADDED TO THE LAW AND BRACKETED MATERIAL IN CAPITAL LETTERS INDICATES DELETIONS FROM THE LAW; COMPLETELY NEW TEXT OR MATERIAL REPEALED AND RE-ENACTED IS IDENTIFIED IN THE INTRODUCTORY LINE OF EACH BILL SECTION.

Approved by the Governor: June 26, 1990  
Actual Effective Date: June 27, 1990

Approved as Amended 6/26/90  
JUN 27 1990



AN ACT

Relating to oil discharge prevention and contingency plan requirements, financial responsibility requirements related to oil, penalties, and inspection authority of the Department of Environmental Conservation; relating to the oil and hazardous substance release response fund and responses to oil and hazardous substance emergencies; authorizing the Department of Environmental Conservation and municipalities to enter into agreements pertaining to vessel traffic control and monitoring systems; and providing for an effective date.

\* Section 1. AS 29.35.020 is amended by adding a new subsection to read:

(d) A municipality may enter into agreements with the United States Coast Guard, the United States Environmental Protection Agency, and other persons relating to development and enforcement of vessel traffic control and monitoring systems for oil barges and tank vessels carrying oil operating in or near the waters of the state.

\* Sec. 2. AS 46.03.759(c) is amended to read:

(c) Subject to the \$500,000,000 maximum set under (a) of this section the court shall assess four times the penalty set out in (a) of this section if the court finds

(1) the discharge was caused by the gross negligence or

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intentional act of the defendant;

(2) the defendant did not take reasonable measures to contain and clean up the discharged oil; or

(3) the defendant did not act or respond in accordance with an approved oil discharge prevention and contingency plan.

\* Sec. 3. AS 46.03.823(a) is amended to read:

(a) A person who is a response action contractor with respect to a release or threatened release of a hazardous substance whose acts or omissions are not contrary to a response plan or order by a state or federal agency having jurisdiction over the release or threatened release is not civilly liable for injuries, costs, damages, expenses, or other liability that results from the release or threatened release unless the release or threatened release is caused by an act or omission of the response action contractor that is negligent or grossly negligent or constitutes intentional misconduct. To show negligence by a response action contractor, a claimant must show that the acts or omissions of the contractor under the response action contract were not in accordance with generally accepted professional standards and practices at the time the response action services were performed.

\* Sec. 4. AS 46.03.823(b) is amended to read:

(b) The liability limitation under (a) of this section

(1) does not apply to a response action contractor who would otherwise be liable for the release or threatened release under state or federal law even if that person had not carried out a response action with respect to the release or threatened release; and

(2) does apply only to releases for which notification to the department was provided and received in the manner prescribed under state law [STRICTLY LIABLE UNDER THIS SECTION].

\* Sec. 5. AS 46.03.823(e) is amended to read:

(e) This section does not affect the liability of a response action contractor that may arise from the response action contractor's failure to comply with the terms or conditions of a

(1) response action contract or a remedial action plan if one has been approved by the department; or

(2) contingency plan approved by the department where the response action contractor is the plan holder.

\* Sec. 6. AS 46.03.823(g)(2) is amended to read:

(2) "response action contract" means a written contract or agreement to provide response action with respect to a release or threatened release of a hazardous substance, entered into by a person with

(A) the department; [OR]

(B) another person who has entered into an agreement with the department that provides for response action subject to the department's oversight and control;

(C) a federal agency with jurisdiction over the release or threatened release; or

(D) another person potentially liable for the release or threatened release under state or federal law.

\* Sec. 7. AS 46.03.823(g)(3) is amended to read:

(3) "response action contractor" means

(A) a person who enters into a response action contract with respect to a release or threatened release of a hazardous substance and who is carrying out the contract, including a cooperative organization formed to maintain and supply response equipment and materials that enters into a response action contract relating to a release or threatened release; and

(B) a person who is retained or hired by and is under

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the control of a person described in (A) of this paragraph, to provide services related to the response action contract.

\* Sec. 8. AS 46.04.020(a) is amended to read:

(a) The department shall enter into negotiations for memoranda of understanding or cooperative agreements with the United States Coast Guard, the United States Environmental Protection Agency, and other persons in order to:

(1) facilitate coordinated and effective oil discharge prevention and response in the state, including agreements relating to development and enforcement of vessel traffic control and monitoring systems for tank vessels and oil barges operating in or near the waters of the state;

(2) provide for cooperative review of oil discharge prevention and contingency plans submitted to the department under AS 46.04.030;

(3) provide for cooperative inspections of oil terminal facilities by the department and the United States Coast Guard or United States Environmental Protection Agency; and

(4) provide for cooperative oil discharge notification procedures.

\* Sec. 9. AS 46.04.030 is amended to read:

Sec. 46.04.030. OIL DISCHARGE PREVENTION AND CONTINGENCY PLANS

(a) A person may not cause or permit the operation of an oil terminal facility in the state unless an oil discharge prevention and contingency plan for the facility has been approved by the department and the person is in compliance with the plan. THE DEPARTMENT IS THE ONLY STATE AGENCY WHICH HAS THE POWER TO APPROVE AN OIL DISCHARGE CONTINGENCY PLAN FOR THE PURPOSES OF THIS SECTION.

(b) A [AFTER JANUARY 1, 1987, A] person may not cause or permit

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the operation of a pipeline or an (OFFSHORE) exploration or production facility in the state unless an oil discharge prevention and contingency plan for the pipeline or facility has been approved by the department and the person is in compliance with the plan.

(c) Except as provided in (a) of this section, a [A] person may not operate a tank vessel or an oil barge within the waters of the state, or cause or permit the transfer of oil to or from a tank vessel or [A, OR, AFTER JANUARY 1, 1987, TO OR FROM] an oil barge, unless an oil discharge prevention and contingency plan for the tank vessel or oil barge has been approved by the department and the person is in compliance with the plan. (EXCEPT FOR PROHIBITIONS UNDER AS 46.03.190(b), IT IS NOT A DEFENSE TO AN ACTION BROUGHT FOR VIOLATION OF THIS SUBSECTION THAT THE PERSON CHARGED BELIEVED THAT A CURRENT OIL DISCHARGE CONTINGENCY PLAN FOR THE TANK VESSEL OR OIL BARGE HAD BEEN APPROVED BY THE DEPARTMENT).

(c) Upon approval of a contingency plan, the department shall issue to the plan holder a certificate stating that the contingency plan has been approved by the department. The certificate must include the name of the facility, pipeline, tank vessel, or oil barge for which it is issued, the effective date of the contingency plan, and the date by which the contingency plan must be submitted for renewal. A [AN OIL DISCHARGE] contingency plan must be submitted for renewal [RENEWED AT LEAST] every three years.

(e) The department may attach reasonable terms and conditions to its approval or modification of a [AN OIL DISCHARGE] contingency plan that the department [WHICH IT] determines are necessary to ensure [INSURE] that the applicant for a [AN OIL DISCHARGE] contingency plan has access to sufficient resources to protect environmentally sensitive areas and to contain, clean up, and mitigate potential oil

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discharges from the facility or vessel as provided in (k) of this section, and to ensure that the applicant complies with the contingency plan (WITHIN THE SHORTEST FEASIBLE TIME). The [OIL DISCHARGE] contingency plan must provide for the use [OF THE BEST AVAILABLE TECHNOLOGY] by the applicant of the best technology that was available at the time the contingency plan was submitted or renewed. The department may require an applicant or holder of an approved contingency plan to take steps necessary to demonstrate its ability to carry out the contingency plan, including

- (1) periodic training;
- (2) response team exercises; and
- (3) verifying access to inventories of [AVAILABLE] equipment, supplies, and personnel identified as available in the approved contingency plan.

(f) Upon request of a plan holder or on the department's own initiative, the [THE] department, after notice and opportunity for hearing, may modify its approval of a [AN OIL DISCHARGE] contingency plan if the department [IT] determines that a change has occurred in the operation of a facility [, MARINA] or vessel necessitating an amended or supplemented plan, or the operator's discharge experience demonstrates a necessity for modification. The department, after notice and opportunity for hearing, may revoke its approval of a [AN OIL DISCHARGE] contingency plan if the department [IT] determines that

- (1) approval was obtained by fraud or misrepresentation;
- (2) the operator does not have access to the quality or quantity of resources identified in the plan; [OR]
- (3) a term or condition of approval or modification has been violated; or
- (4) the person is not in compliance with the contingency

plan and the deficiency materially affects the plan holder's response capability.

(g) Failure of a holder of an approved or modified [OIL DISCHARGE] contingency plan to comply with the plan, or to have access to the quality or quantity of resources identified in the plan or [AND, IN THE EVENT OF A SPILL,] to respond with those resources within the shortest possible [FEASIBLE] time in the event of a spill is a violation of this chapter for purposes of AS 46.03.760(a), 46.03.765, 46.03.790, and any other applicable law. If the holder of an approved or modified [OIL DISCHARGE] contingency plan fails to respond to and conduct cleanup operations of an unpermitted discharge of crude oil with the quality and quantity of resources identified in the plan and in a manner required under the plan, the holder is strictly liable, jointly and severally, for the civil penalty assessed under AS 46.03.758, 46.03.759, or 46.03.760 against any other person for that discharge.

\* Sec. 10. AS 46.04.030 is amended by adding new subsections to read:

(h) The department is the only state agency that has the power to approve, modify, or revoke a contingency plan for the purposes of this section. The department shall exercise its power under this section in a timely manner. Except for prosecutions under AS 46.03.790(b) and except as provided in (i) of this section, it is not a defense to an action brought for a violation of (a) - (c) of this section that the person charged believed that a current contingency plan had been approved by the department.

(i) It is a defense to an action brought for a violation of (a) - (c) of this section that the person charged relied on a certificate of approval issued by the department under (d) of this section unless the person knew or had reason to know at the time of the

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alleged violation that approval of the plan had been revoked or that the holder of the plan was not capable of carrying out the plan.

(j) Before the department approves or modifies a contingency plan under this section, the department shall provide a copy of the contingency plan to the Department of Fish and Game and to the Department of Natural Resources for their review. The department shall by regulation establish the procedures and time limits applicable to agency review of contingency plans.

(k) Except as provided in (m) and (o) of this section, the holder of an approved contingency plan required under this section shall maintain, or have available under contract, in its region of operation or in another region of operation approved by the department, singly or in conjunction with other operators, sufficient oil discharge containment, storage, transfer, and cleanup equipment, personnel, and resources to meet the following response planning standards:

(1) for a discharge from an oil terminal facility, the plan holder shall plan to be able to contain or control, and clean up a discharge equal to the capacity of the largest oil storage tank at the facility within 72 hours, except that if the department determines that the facility is located in an area of high risk because of natural or man-made conditions outside of the facility, it may increase the volume requirement under this paragraph so that the contingency plan must be designed for a response that is greater in amount than the capacity of the largest oil storage tank at the facility;

(2) for a discharge from an exploration or production facility or a pipeline, the plan holder shall plan to be able to contain or control, and clean up the realistic maximum oil discharge within 72 hours;

(3) for a discharge of crude oil from a tank vessel or oil barge, the plan holder shall plan to be able to contain or control, and clean up a realistic maximum oil discharge as provided in (A), (B), and (C) of this paragraph:

(A) for tank vessels and oil barges having a cargo volume of less than 500,000 barrels, the plan holder shall maintain at a minimum in the region of operation, equipment, personnel, and other resources sufficient to contain or control, and clean up a 50,000 barrel discharge within 72 hours;

(B) for tank vessels and oil barges having a cargo volume of 500,000 barrels or more, the plan holder shall maintain at a minimum in its region of operation, equipment, personnel, and other resources sufficient to contain or control, and clean up a 300,000 barrel discharge within 72 hours;

(C) in addition to the minimum equipment, personnel, and other resources required to be maintained within the region of operation by (A) or (B) of this paragraph, a plan holder shall maintain, either within or outside of the plan holder's region of operation, additional equipment, personnel, and other resources sufficient to contain or control, and clean up a realistic maximum discharge within the shortest possible time; the plan holder must demonstrate that the equipment, personnel, and other resources maintained outside the plan holder's region of operation are accessible to the plan holder and will be deployed and operating at the discharge site within 72 hours;

(4) for a discharge from a tank vessel or oil barge carrying noncrude oil in bulk as cargo, the plan holder shall plan to be able to contain or control 75 percent of the maximum capacity of the vessel or barge or the realistic maximum oil discharge, whichever is

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greater, within 48 hours and clean up the discharge within the shortest possible time consistent with minimizing damage to the environment;

(5) for a discharge subject to the provisions of (1) - (3) of this subsection that enters a receiving environment other than open water, the time requirement for clean up of the portion of the discharge that enters the receiving environment may, in the department's discretion, be within the shortest possible time consistent with minimizing damage to the environment.

(1) The provisions of (k) of this section do not constitute cleanup standards that must be met by the holder of a contingency plan. Notwithstanding (k) of this section, failure to remove a discharge within the time periods set out in (k) of this section does not constitute failure to comply with a contingency plan for purposes of (g) of this section or for the purpose of imposing administrative, civil, or criminal penalties under any other law.

(m) When considering whether to approve or modify a contingency plan, the department may consider evidence that oil discharge prevention measures such as double hulls or double bottoms on vessels or barges, secondary containment systems, hydrostatic testing, enhanced vessel traffic systems, or enhanced crew or staffing levels have been implemented, and, in its discretion, may make exceptions to the requirements of (k) of this section to reflect the reduced risk of oil discharges from the facility, pipeline, vessel, or barge for which the plan is submitted or being modified.

(n) A tank vessel or oil barge that is conducting, or is available only for conducting, oil discharge response operations is exempt from the requirements of (c) of this section if the tank vessel or oil barge has received prior approval of the department. The department

may approve exemptions under this subsection upon application and presentation of information required by the department.

(c) A holder of an approved contingency plan does not violate the terms of the contingency plan by furnishing to another plan holder, with the approval of the department, equipment, materials, or personnel to assist the other plan holder in a response to an oil discharge. The plan holder shall replace or return the transferred equipment, materials, and personnel as soon as feasible. The department shall by regulation determine the maximum amount of equipment, materials, or personnel and the maximum amount of time for which it will approve a transfer.

(p) The department shall approve or disapprove a proposed contingency plan within 65 days after it receives a complete application for approval under this section.

(q) In this section,

(1) "contingency plan" means an oil discharge prevention and contingency plan required under this section;

(2) "in compliance with the plan" means, with respect to a contingency plan, to

(A) establish and carry out procedures identified in the plan as being the responsibility of the holder of the plan;

(B) have access to and have on hand the quantity and quality of equipment, personnel, and other resources identified as being accessible or on hand in the plan;

(C) fulfill the assurances espoused in the plan in the manner described in the plan;

(D) comply with terms and conditions attached to the plan by the department under the authority of (e) of this section; and

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(E) successfully demonstrate the ability to carry out the plan when required by the department under (e) of this section;

(3) "realistic maximum oil discharge" means the maximum and most damaging oil discharge that the department estimates could occur during the lifetime of the tank vessel, oil barge, facility, or pipeline based on the size, location, and capacity of the tank vessel, oil barge, facility, or pipeline; on the department's knowledge and experience with the tank vessel, oil barge, facility, or pipeline or with similar tank vessels, oil barges, facilities, or pipelines; and on the department's analysis of possible mishaps to the tank vessel or oil barge or at the facility or pipeline or to similar tank vessels or oil barges or at similar facilities or pipelines;

(4) "region of operation," with respect to the holder of a contingency plan, means the area where the operations of the holder that require a contingency plan are located, the boundaries of which correspond to the regional boundaries established by the commissioner for regional master planning purposes under AS 46.04.210.

\* Sec. 11. AS 46.04.040(a) is amended to read:

(a) A person may not cause or permit the operation of an oil terminal facility in the state unless the person has furnished to the department, and the department has approved, proof of financial ability to respond in damages. Proof of financial responsibility required for a crude oil terminal is \$50,000,000 per incident. Proof of financial responsibility required for a noncrude oil terminal is \$25, per incident, for each barrel of total noncrude oil storage capacity at the terminal or (WHICH HAS BEEN ACCEPTED BY THE DEPARTMENT. ABILITY TO RESPOND IN DAMAGES NEED NOT EXCEED \$50,000,000 BUT MUST BE IN AN AMOUNT (1) NOT LESS THAN \$10, PER INCIDENT, FOR EACH BARREL OF STORAGE

CAPACITY AT THE OIL TERMINAL FACILITY: OK (2) \$1,000,000, whichever is greater, subject to a maximum of \$50,000,000. For purposes of this subsection, an oil terminal facility that stores both crude oil and noncrude oil is subject to the financial responsibility requirements applicable to the type of facility that corresponds to the type of oil storage that predominates at the facility. However, if the facility stores more noncrude oil than crude oil, the \$25 per incident, per barrel requirement of this subsection applies to each barrel of oil storage capacity at the facility.

\* Sec. 12. AS 46.04.040(b) is amended to read:

(b) A [AFTER JULY 1, 1981, A] person may not cause or permit the operation of a pipeline or an [OFFSHORE] exploration or production facility in the state unless the person has furnished to the department, and the department has approved, proof of financial ability to respond in damages [HAS BEEN ACCEPTED BY THE DEPARTMENT]. Proof of financial responsibility required for a pipeline or an offshore exploration or production facility is \$50,000,000 [MAY NOT BE LESS THAN \$35,000,000] per incident. Proof of financial responsibility required for an onshore production facility is \$20,000,000 per incident. Proof of financial responsibility required for an onshore exploration facility is \$5,000,000 per incident.

\* Sec. 13. AS 46.04.040(c) is amended to read:

(c) Except as provided in (m) of this section, a [A] person may not operate a tank vessel or an oil barge within the waters of the state, or cause or permit the transfer of oil to or from a tank vessel [.] or [, AFTER JANUARY 1, 1981, TO OR FROM] an oil barge, unless the person operating the tank vessel or oil barge has furnished to the department, and the department has approved, proof of financial ability to respond in damages. Proof of financial responsibility required

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under this subsection is

(1) \$300, per incident, for each barrel of storage capacity or \$100,000,000, whichever is greater, for a tank vessel or barge carrying crude oil;

(2) \$100, per incident, for each barrel of storage capacity or \$1,000,000, whichever is greater, subject to a maximum of \$35,000,000, for a tank vessel or barge carrying noncrude oil [RESPONSIBILITY FOR THE TANK VESSEL OR BARGE HAS BEEN ACCEPTED BY THE DEPARTMENT. FINANCIAL RESPONSIBILITY UNDER THIS SUBSECTION SHALL BE IN THE FOLLOWING AMOUNTS:

(1) FOR A TANK VESSEL OR OIL BARGE INVOLVED IN THE TRANSPORTATION OF TRANS-ALASKA PIPELINE OIL, THE AMOUNT REQUIRED BY THE FEDERAL MARITIME COMMISSION UNDER 43 U.S.C. 1653(c)(3) (SEC. 204 (c)(3), TRANS-ALASKA PIPELINE AUTHORIZATION ACT);

(2) FOR ANY OTHER OIL BARGE, THE AMOUNT REQUIRED BY SEC. 311(p)(1) OF THE CLEAN WATER ACT, OR \$1,000,000, WHICHEVER IS GREATER;

(3) FOR ANY OTHER TANK VESSELS, THE AMOUNT REQUIRED BY SEC. 311(p)(1) OF THE CLEAN WATER ACT, OR \$20,000,000, WHICHEVER IS GREATER].

\* Sec. 14. AS 46.04.040(d) is amended to read:

(d) Except for prosecutions under AS 46.03.790(b) and except as provided in (k) of this section, it is not a defense to an action brought for violation of (a) - (c) [ ] of this section that the person charged believed in good faith that proof of financial ability to respond in damages had been furnished to, and approved by, the department [THE VESSEL OPERATOR POSSESSED PROOF OF FINANCIAL RESPONSIBILITY ACCEPTED BY THE DEPARTMENT].

\* Sec. 15. AS 46.04.040(e) is amended to read:

(e) Financial responsibility may be demonstrated by (1) self-

insurance, (2) insurance, (3) surety, (4) [OR] guarantee, (5) letter of credit approved by the department, or (6) other proof of financial responsibility approved by the department, including proof of financial responsibility provided by a group of insureds who have agreed to cover pollution risks of members of the group under terms the department may prescribe. An action brought under AS 46.03.758, 46.03.759, 46.03.760(a) or (e), 46.03.822, or AS 46.04.030(g) [OR TO COLLECT PENALTIES IMPOSED UNDER AS 46.03.759] may be brought in a state court directly against the insurer, the group, or another person providing evidence of financial responsibility. The applicant, and an insurer, surety, [OR] guarantor, person furnishing an approved letter of credit, or other group or person providing proof of financial responsibility approved by the department shall appoint an agent for service of process in the state. For purposes of this subsection, an [AN] insurer, other than a group of insureds whose agreement has been approved by the department, must either be authorized by the Department of Commerce and Economic Development to sell insurance in the state or be an unauthorized insurer listed by the Department of Commerce and Economic Development as not disapproved for use in the state.

\* Sec. 16. AS 46.04.040(f) is amended to read:

(f) Acceptance of proof of financial responsibility expires (1) one year from its issuance for self-insurance; (2) on the effective date of a change in the surety bond, guarantee, [OR] insurance agreement, letter of credit, or other proof of financial responsibility; or (3) on the expiration or cancellation of the surety bond, guarantee, [OR] insurance agreement, letter of credit, or other proof of financial responsibility.

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\* Sec. 17. AS 46.04.040(g) is amended to read:

(g) The person whose proof of financial responsibility is accepted by the department under this section shall notify the department at least 30 days before the effective date of a change, expiration or cancellation in the surety bond, guarantee, [OR] insurance agreement, letter of credit, or other proof of financial responsibility. Application for renewal of acceptance of proof of financial responsibility under this section must be filed at least 30 days before the date of expiration.

\* Sec. 18. AS 46.04.040 is amended by adding new subsections to read:

(j) Upon acceptance and approval of proof of financial responsibility under this section, the department shall issue to the applicant a certificate stating that the state's financial responsibility requirements have been satisfied. The certificate must include the name of the facility, pipeline, tank vessel, or oil barge for which it is issued and the expiration date of the certificate.

(k) It is a defense to an action brought for violation of (a) - (c) of this section that the person charged relied on a certificate of approval issued under (j) of this section unless the person knew or had reason to know at the time of the alleged violation that the approval had been revoked or was expired.

(l) Notwithstanding the requirements of (e) of this section, the applicant may provide evidence of financial responsibility provided by an insurer or other person who does not agree to be subject to direct action in state courts or to appoint an agent for service of process if

(1) the department is satisfied that the insurance or other form of financial responsibility covers judgments under the statutes listed in (e) of this section;

(2) the applicant provides proof of \$50,000,000, or the amount required by (a) - (c) of this section, whichever is less, in insurance or other form of financial responsibility that meets the requirements of (e) of this section; and

(3) the applicant provides a sworn statement or affidavit that insurance or other form of financial responsibility that meets the requirements of (e) of this section is not available in greater amounts.

(m) A tank vessel or oil barge that is conducting, or is available only for conducting, oil discharge response operations is exempt from the requirements of (c) of this section if the tank vessel or oil barge has received prior approval of the department. The department may approve an exemption under this subsection upon application and presentation of information required by the department.

\* Sec. 19. AS 46.04 is amended by adding a new section to read:

Sec. 46.04.045. ADJUSTMENT OF DOLLAR AMOUNTS. (a) The dollar amounts in AS 46.04.040 change, as provided in this section, according to and to the extent of changes in the Consumer Price Index for all urban consumers for the Anchorage metropolitan area compiled by the Bureau of Labor Statistics, United States Department of Labor (the index). The index for January of the year in which this section becomes effective is the reference base index.

(b) The dollar amounts change on October 1 of each third year according to the percentage change between the index for January of that year and the most recent index used to determine whether to change the dollar amounts. After calculation of the new amounts, the resulting amounts shall be rounded to the nearest cent.

(c) If the index is revised, the percentage of change is calculated on the basis of the revised index. If a revision of the index

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changes the reference base index, a revised reference base index is determined by multiplying the reference base index applicable by the rebasing factor furnished by the United States Bureau of Labor Statistics. If the index is superseded, the index referred to in this section is the one represented by the Bureau of Labor Statistics as reflecting most accurately changes in the purchasing power of the dollar for Alaskan consumers.

(d) The department shall adopt a regulation announcing

(1) on or before June 30 of each third year, the changes in dollar amounts required by (b) of this section; and

(2) promptly after the changes occur, changes in the index required by (c) of this section, including, if applicable, the numerical equivalent of the reference base index under a revised reference base index and the designation or title of any index superseding the index.

(e) The department shall also provide notification of a change in dollar amounts required under (b) of this section to the clerks of court in each judicial district of the state.

\* Sec. 20. AS 46.04.050 is amended to read:

Sec. 46.04.050. EXEMPTIONS. The provisions of [BECAUSE OF THE RESTRICTED NATURE OF THE OPERATIONS AND THE MINIMAL DANGER TO THE ENVIRONMENT POSED BY THE ACTIVITIES.] AS 46.04.030, 46.04.040, and 46.04.060 do not apply to an oil terminal facility that has an effective storage capacity of less than 5,000 [10,000] barrels of crude oil or less than 10,000 barrels of noncrude oil.

\* Sec. 21. AS 46.04.060 is amended to read:

Sec. 46.04.060. INSPECTIONS. In addition to other rights of access or inspection conferred upon the department by law or otherwise, the department may at reasonable times and in a safe manner

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enter and inspect oil [OIL] terminal facilities, pipelines, [OFFSHORE] exploration and production facilities, tank vessels, and oil barges in order [ARE SUBJECT TO INSPECTION BY THE DEPARTMENT] to

(1) ensure compliance with the provisions of this chapter;

or

(2) participate in an examination of the structural integrity and the operating and mechanical systems of those vessels, barges, pipelines, and facilities by federal and state agencies with jurisdiction.

\* Sec. 22. AS 46.04.060 is amended by adding a new subsection to read:

(b) When the department determines that no federal or state agencies with jurisdiction are performing timely and adequate inspections of an oil terminal facility, pipeline, exploration or production facility, tank vessel, or oil barge, it may perform its own inspection of the structural integrity and operating and mechanical systems of a facility, pipeline, tank vessel, or oil barge by using personnel with qualifications in the areas being inspected.

\* Sec. 23. AS 46.04.200 is amended to read:

Sec. 46.04.200. STATE MASTER PLAN. (a) The department shall prepare and annually review and revise a statewide master oil and hazardous substance discharge [AND] prevention and contingency plan.

(b) The state master plan prepared under this section must

(1) take into consideration the elements of an oil discharge prevention and contingency plan approved or submitted for approval under AS 46.04.030;

(2) clarify and specify the respective responsibilities of each of the following in the assessment, containment, and cleanup of a catastrophic oil discharge or of a significant discharge of a hazardous substance into the environment of the state:

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION

- (A) agencies of the state;
  - (B) municipalities of the state;
  - (C) appropriate federal agencies;
  - (D) operators of facilities;
  - (E) private parties whose land and other property may be affected by the oil or hazardous substance discharge; and
  - (F) other parties identified by the commissioner as having an interest in or the resources to assist in the containment and cleanup of an oil or hazardous substance discharge;
- (3) specify the respective responsibilities of parties identified in (2) of this subsection in an emergency response; and
- (4) identify actions necessary to reduce the likelihood of catastrophic oil discharges and significant discharges of hazardous substances.
- (c) In preparing and annually reviewing the state master plan, the commissioner shall
- (1) consult with municipal and community officials, and with representatives of affected regional organizations;
  - (2) submit the draft plan to the public for review and comment;
  - (3) submit to the legislature for review, not later than the 10th day following the convening of each regular session, the plan and any annual revision of the plan; and
  - (4) require or schedule unannounced oil spill drills to test the sufficiency of an oil discharge prevention and contingency plan approved under AS 46.04.030 or of the cleanup plans of a party identified under (b)(2) of this section.

\* Sec. 24. AS 46.04.210(a) is amended to read:

- (a) For any region of the state, the boundaries of which are

SCS CSHE 567(Fin)

determined by the commissioner by regulation, in which the department is required to review and approve an oil discharge prevention and contingency plan submitted by a person under AS 46.04.030, the department shall prepare and annually review and revise a regional master oil and hazardous substance discharge [AND] prevention and contingency plan.

\* Sec. 25. AS 46.04.900(8) is amended to read:

(8) "[OFFSHORE] exploration [OR PRODUCTION] facility" means a platform, vessel, or other facility used to explore for [OR PRODUCE] hydrocarbons in or on the waters of the state or in or on land in the state; the term does not include platforms or vessels used for stratigraphic drilling or other operations that [WHICH] are not authorized or intended to drill to a producing formation;

\* Sec. 26. AS 46.04.900(15) is amended to read:

(15) "tank vessel" means a self-propelled waterborne vessel that is constructed or converted to carry liquid bulk cargo in tanks and includes tankers, tankships, and combination carriers when carrying oil; the term does not include vessels carrying oil in drums, barrels, or other packages, or vessels carrying oil as fuel or stores for that vessel;

\* Sec. 27. AS 46.04.900 is amended by adding new paragraphs to read:

(18) "pipeline" means the facilities, including piping, compressors, pump stations, and storage tanks, used to transport crude oil and associated hydrocarbons between production facilities or from one or more production facilities to marine vessels;

(19) "production facility" means a drilling rig, drill site, flow station, gathering center, pump station, storage tank, well, and related appurtenances on other facilities to produce, gather, clean, dehydrate, condition, or store crude oil and associated hydrocarbons

SCS CSHE 567(Fin)

in or on the water of the state or on land in the state, and gathering and flow lines used to transport crude oil and associated hydrocarbons to the inlet of a pipeline system for delivery to a marine facility, refinery, or other production facility.

\* Sec. 25. AS 46.08.040 is amended to read:

Sec. 46.08.040. PURPOSES OF THE FUND. The commissioner may use money from the fund to

(1) investigate and evaluate the release or threatened release of oil or a hazardous substance, and contain, clean up, and take other necessary action, such as monitoring and assessing, to address a release or threatened release of oil or a hazardous substance that poses an imminent and substantial threat to the public health or welfare, or to the environment;

(2) pay all costs incurred

(A) to establish and maintain the oil and hazardous substance response office and for the expenses of the oil and hazardous substance response corps and the oil and hazardous substance response depots established by that office;

(B) to review oil discharge prevention and contingency plans submitted under AS 46.04.030;

(C) to conduct training, response exercises, inspections, and tests, in order to verify equipment inventories and ability to prevent and respond to oil and hazardous substance release emergencies, and to undertake other activities intended to verify or establish the preparedness of the state, a municipality, or a party required by AS 46.04.030 to have an approved contingency plan to act in accordance with that plan; and

(D) to verify or establish proof of financial responsibility required by AS 46.04.040;

(3) provide matching funds for participation in federal oil discharge cleanup activities and under 42 U.S.C. 9601 - 9657 (Comprehensive Environmental Response, Compensation, and Liability Act of 1980); [AND]

(4) recover the costs to the state or to a municipality of a containment and cleanup resulting from the release or the threatened release of oil or a hazardous substance; [.]

(5) prepare, review, and revise

(A) the state's master oil and hazardous substance discharge [AND] prevention and contingency plan required by AS 46.04.200; and

(B) a regional master oil and hazardous substance discharge [AND] prevention and contingency plan required by AS 46.04.210; and

(6) restore the environment by addressing the effects of an oil or hazardous substance release.

\* Sec. 29. AS 46.08.060(a) is amended to read:

(a) The commissioner shall submit a report to the legislature not later than the 10th day following the convening of each regular session of the legislature. The report may include information considered significant by the commissioner but must include:

(1) the amount of money expended under AS 46.08.040 during the preceding fiscal year;

(2) the amount and source of money received and money recovered during the preceding fiscal year as specified in AS 46.08.020;

(3) a summary of municipal participation in responses funded by the fund;

(4) a detailed summary of department activities in

responses funded by the fund during the preceding fiscal year, including response descriptions and statements outlining the nature of the threat; in this paragraph, "detailed" includes information describing each personal services position and total compensation for that position, each contract in excess of \$20,000, and each purchase in excess of \$10,000; and

(5) the projected cost for the next fiscal year of monitoring, operating, and maintaining sites where response has been completed or is expected to be continued during the fiscal year.

\* Sec. 30. SURVEY OF SMALL NONCRUDE OIL TERMINAL FACILITIES. (a) By January 31, 1992, the Department of Environmental Conservation shall survey, inspect, and prepare an inventory of noncrude oil terminal facilities in the state with an effective storage capacity of 5,000 to 10,000 barrels in order to determine for each facility

- (1) its actual storage capacity;
- (2) the type of noncrude oil products stored;
- (3) its age, design, construction, and general condition;
- (4) the design and construction standards applicable or relevant;
- (5) the presence or absence of containment structures and equipment;
- (6) its ability to respond to a release or threatened release;
- (7) the environmental sensitivity of the surrounding area and the potential risk to the environment if a release occurs;
- (8) the presence or absence of surface and subsurface pipelines and storage tanks; and
- (9) other appropriate information.

(b) By January 31, 1992, the Department of Environmental Conservation shall report to the legislature the results of the survey required under SCS CSHE 567(Fin)

(a) of this section and its written recommendations concerning discharge prevention and contingency requirements or design review requirements that should be enacted for noncrude oil terminal facilities with storage capacities of less than 10,000 barrels.

(c) Upon completion of the survey required under (a) of this section, the Department of Environmental Conservation may

- (1) notify each facility of the results of the facility's inspection; and
- (2) provide each facility with recommendations and technical assistance concerning identified deficiencies.

(d) The Department of Environmental Conservation may conduct the inspections required under this section notwithstanding the provisions of AS 46.04.050. The department shall conduct the inspections at reasonable times.

\* Sec. 31. STUDY RELATING TO NONCRUDE OIL TANKERS AND BARGES. By July 1, 1991, the Department of Environmental Conservation shall conduct a study and report to the legislature its recommendations concerning the following issues related to oil discharge prevention and contingency planning for tank vessels and oil barges carrying noncrude oil in bulk as cargo:

- (1) appropriate locations for regional response depots, based on an assessment of historical evidence of where noncrude oil discharges are most likely to occur and the needs of remote areas of the state such as western and northern Alaska and the Aleutians;
- (2) appropriate discharge response times;
- (3) requirements for personnel and equipment that should be imposed on contingency plan holders;
- (4) appropriate roles for industry and state and local governments in the purchase, ownership, and positioning of discharge response

Environmental Conservation Agency

Chapter 191

efforts.

\* Sec. 32. TRANSITIONAL PROVISIONS. (a) AS 46.04.030(k) - (m), enacted by sec. 10 of this Act, do not apply to oil discharge prevention and contingency plans until June 1, 1991. On and after June 1, 1991, a contingency plan must comply with AS 46.04.030(k) - (m), enacted by sec. 10 of this Act, regardless of whether the contingency plan is due for renewal under AS 46.04.030(d), as amended by sec. 9 of this Act.

(b) The amendments to AS 46.04.040, made by secs. 11 - 18 of this Act, do not apply to persons required to show proof of financial responsibility until June 1, 1991. On and after June 1, 1991, proof of financial responsibility must comply with AS 46.04.040, as amended by secs. 11 - 18 of this Act, regardless of whether acceptance of proof of financial responsibility has expired under AS 46.04.040(f), as amended by sec. 16 of this Act.

\* Sec. 33. This Act takes effect immediately under AS 01.10.070(c).

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# LAWS OF ALASKA

1990

Source

SB 307

Chapter No.

192

## AN ACT

Relating to property foreclosed upon by a municipality.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

THE ACT FOLLOWS ON PAGE 1, LINE 9

UNDERLINED MATERIAL INDICATES TEXT THAT IS BEING ADDED TO THE LAW AND BRACKETED MATERIAL IN CAPITAL LETTERS INDICATES DELETIONS FROM THE LAW; COMPLETELY NEW TEXT OR MATERIAL REPEALED AND RE-ENACTED IS IDENTIFIED IN THE INTRODUCTORY LINE OF EACH BILL SECTION.

Approved by the Governor: June 26, 1990  
Actual Effective Date: September 24, 1990

REPEALED AND RE-ENACTED

# EXHIBIT 8

Excerpt of Record on Appeal in OAH No. 17-1218-DEC and  
No. 17-1219-DEC



THE STATE  
of **ALASKA**  
GOVERNOR BILL WALKER

Department of  
**Environmental Conservation**  
DIVISION OF SPILL PREVENTION AND RESPONSE  
Prevention, Preparedness, and Response Program

555 Cordova Street  
Anchorage, AK 99501-2617  
Main: 907-269-7557  
Fax: 907-269-7687  
www.dec.alaska.gov

Facility #: 4057

**OIL DISCHARGE PREVENTION AND  
CONTINGENCY PLAN APPROVAL**

October 23, 2017

Tom Stokes  
Alyeska Pipeline Service Company  
P.O. Box 196660, MS 502  
Anchorage, AK 99519-6660

Subject: **Alyeska Pipeline Service Company, Valdez Marine Terminal Oil Discharge Prevention and Contingency Plan, ADEC Plan #: 14-CP-4057; Amendment 2017-1 Approval**

Dear Mr. Stokes:

The Alaska Department of Environmental Conservation (department) has completed its review of the major plan amendment application package for the Alyeska Pipeline Service Company, Valdez Marine Terminal Oil Discharge Prevention and Contingency Plan (plan) that was received on February 28, 2017. The department coordinated the State of Alaska's public review for compliance with 18 AAC 75, using the review procedures outlined in 18 AAC 75.455. Based on our review, the department has determined that your plan is consistent with the applicable requirements of the referenced regulations and is hereby approved. The department is still reviewing Amendment 2017-2; any changes approved in this Amendment (2017-1) that affect pages in Amendment 2017-2 will be incorporated as the review continues.

This approval applies to the following plan:

Plan Title: **Valdez Marine Terminal Oil Discharge Prevention and Contingency Plan**  
Documents: **N/A**  
Plan Holder: **Alyeska Pipeline Service Company**  
Covered Facilities: **Valdez Marine Terminal**

**PLAN APPROVAL:** The approval for the referenced plan is hereby granted **effective October 23, 2017**. A Certificate of Approval stating that the department has approved the plan is enclosed.

**EXPIRATION:** This approval **expires November 21, 2019**. Following expiration, Alaska law prohibits operation of the facility until an approved plan is once again in effect. All terms and conditions of the department's existing approval letter, dated January 14, 2015, remain in effect, with the extension in the department's April 4, 2017 letter. The expiration date of this amendment coincides with the existing plan

SOA 001



approval. This amendment fulfills the requirements of Condition of Approval No. 5 and No. 6 of the January 14, 2015 approval letter. An amended certificate of approval is attached.

**CONDITION(S) OF APPROVAL:** The approval is subject to the following additional conditions:

**Condition of Approval No. 1: Requirement to Make Administrative Edits and Factual Corrections Prior to Publication.**

Prior to publication of the approved plan, APSC is required to make the following corrections. In addition, APSC must update the list of names, titles addresses, and telephone numbers of spill command and response personnel listed in the plan.

Volume 1

Section 3.9 Figure 3.9-4. Include before publication the addition of the Open Water Crucial Skimmer Suite to the Open Water Task Force Leader training, for Open Water Task Force Leaders that will be on the Open Water barge with the Crucial Skimmer system.

**TERMS:** The approval is subject to the following terms:

1. **PROOF OF FINANCIAL RESPONSIBILITY:** The plan holder has provided the department with proof of financial responsibility per the requirements of AS.46.04.040 and 18 AAC 75.205 – 18 AAC 75.290.
2. **PUBLICATION OF PLAN:** The plan holder shall provide copies of the approved plan to the parties and in the format indicated in the enclosed distribution list in accordance with 18 AAC 75.408(c) not later than 30 days of this approval.
3. **AMENDMENT:** Except for routine updates under 18 AAC 75.415(b), an application for approval of an amendment must be submitted by the plan holder and approved by the department before a change to this plan may take effect. This is to ensure that changes to the plan do not diminish the plan holder's ability to respond to a discharge and to evaluate any additional environmental considerations that may need to be taken into account (18 AAC 75.415).
4. **RENEWAL:** To renew this plan, the plan holder must submit an application package to the department no later than 180 days prior to the expiration of this approval. This is to ensure that the submitted plan is approved before the current plan in effect expires (18 AAC 75.420).
5. **REVOCATION, SUSPENSION OR MODIFICATION:** This approval is effective only while the plan holder is in compliance with the plan as defined in AS 46.04.030(e) and with all of the terms and conditions described above. The department may, after notice and opportunity for a hearing, revoke, suspend, or require modification of the approved plan if the plan holder is not in compliance with the plan or for any other reason stated in AS 46.04.030(f). In addition, Alaska law provides that a vessel or facility that is not in compliance with a plan may not operate (AS 46.04.030). The department may terminate approval prior to the expiration date if deficiencies are identified that would adversely affect spill prevention, response or preparedness capabilities.
6. **DUTY TO RESPOND:** Notwithstanding any other provisions or requirements of this plan, a person causing or permitting the discharge of oil is required by law to immediately control, contain, and cleanup the discharge regardless of the adequacy or inadequacy of the plan (AS 46.04.020).

SOA 002

7. **NOTIFICATION OF NON-READINESS:** The plan holder must notify the department in writing, within 24 hours, after any significant response equipment as specified in the plan is removed from its designated storage location or becomes non-operational. This notification must provide a schedule for equipment substitution, repair, or return to service as described in 18 AAC 75.475(b).
8. **CIVIL AND CRIMINAL SANCTIONS:** Failure to comply with the plan may subject the plan holder to civil liability for damages and to civil and criminal penalties. Civil and criminal sanctions may also be imposed for any violation of AS 46.04, any regulation issued thereunder or any violation of a lawful order of the department.
9. **INSPECTIONS, DRILLS, RIGHTS TO ACCESS, AND VERIFICATION OF EQUIPMENT, SUPPLIES, AND PERSONNEL:** The department has the right to verify the ability of the plan holder to carry out the provisions of this plan and to access inventories of equipment, supplies, and personnel through such means as inspections and discharge exercises without prior notice to the plan holder. The department has the right to enter and inspect the facility in a safe manner at any reasonable time for these purposes and to otherwise ensure compliance with the plan and the terms and conditions (AS 46.04.030(e) and AS 46.04.060). The plan holder shall conduct exercises for the purpose of testing the adequacy of the plan and its implementation (18 AAC 75.480 and 485).
10. **FAILURE TO PERFORM:** In granting approval of the plan, the department has determined that the plan, as represented to the department by the applicant in the application package for approval, satisfies the minimum planning standards and other requirements established by applicable statutes and regulations, taking as true all information provided by the applicant. The department does not warrant to the applicant, the plan holder, or any other person or entity: (1) the accuracy or validity of the information or assurances relied upon; (2) that the plan is or will be implemented; or (3) that even full compliance and implementation with the plan will result in complete containment, control or clean-up of any given oil spill, including a spill specifically described in the planning standards. The plan holder is encouraged to take any additional precautions and obtain any additional response capability it deems appropriate to further guard against the risk of oil spills and to enhance its ability to comply with its duty under AS 46.04.020(a) to immediately contain and clean up an oil discharge.
11. **COMPLIANCE WITH APPLICABLE LAWS:** The plan holder must adhere to all applicable state statutes and regulations as they may be amended from time to time. This approval does not relieve the plan holder of the responsibility to secure other federal, state, or local approvals or permits or to comply with all other applicable laws.
12. **INFORMAL REVIEWS AND ADJUDICATORY HEARINGS:** If aggrieved by the department's decision, the applicant or any person who submitted comments on the application not later than the close of the public comment period set out under 18 AAC 75.455 may request an adjudicatory hearing in accordance with 18 AAC 15.195 –18 AAC 15.340 or an informal review by the Division Director in accordance with 18 AAC 15.185.

**Informal review requests** must be delivered to the Director, Spill Prevention and Response, 555 Cordova Street, Anchorage, Alaska 99501, within 15 days of the plan approval. A request for informal review is not required prior to making a request for adjudicatory hearing. A copy of the request should be sent to the undersigned.

SOA 003

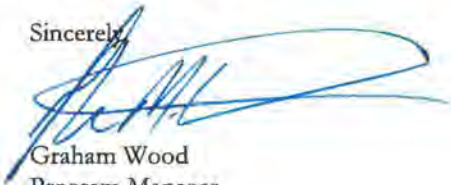
**Adjudicatory hearing requests** must be delivered to the Commissioner, Department of Environmental Conservation, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99801, within 30 days of the plan approval. If a hearing is not requested within 30 days, the right to appeal is waived. A copy of a hearing request must be served on the undersigned and the permit applicant as required by 18 AAC 15.200(c). A copy of the request must also be provided to the department in an electronic format, unless the department waives this requirement because the requestor lacks a readily accessible means or the capability to provide the items in an electronic format.

**13. NOTICE OF CHANGED RELATIONSHIP WITH RESPONSE CONTRACTOR:**

Because the plan relies on the use of response contractor(s) for its implementation, the plan holder must immediately notify the department in writing of any change in the contractual relationship with the plan holder's response contractor(s), and of any event including but not limited to any breach by either party to the response contract that may excuse a response contractor from performing, that indicates a response contractor may fail or refuse to perform, or that may otherwise affect the response, prevention, or preparedness capabilities described in the approved plan.

If you have any questions regarding this process, please contact Ron Doyel at 907-835-8012 or [ron.doyel@alaska.gov](mailto:ron.doyel@alaska.gov).

Sincerely,



Graham Wood  
Program Manager

Enclosures: Certificate of Approval, Number: 14CER-016.4  
Summary of Basis for Decision  
Approved Plan Distribution List

cc with enclosure:

- Scott Hicks, APSC
- Lori Burroughs, APSC
- Martin Parsons, APSC
- Sue Wood, APSC
- Amanda Hatton, APSC
- Sarah Moore, ADEC
- Geoff Merrell, ADEC
- Ron Doyel, ADEC
- Melissa Woodgate, ADEC
- Anna Carey, ADEC
- Pete LaPella, ADEC
- Shannon Miller, ADEC
- Dan Allard, ADEC
- Lee McKinley, ADF&G
- Contingency Plan Reviewer, ADNRR
- Alyssa Sweet, BLM
- Bonnie Friedman, BLM

SOA 004

cc with enclosure (cont'd):

Erika Reed, BLM  
Kevin Kearney, BLM  
Matt Carr, EPA  
Graham Smith, SPCO  
Jason Walsh, SPCO  
David Lehman, USDOT PHMSA  
CDR Michael Franklin, USCG  
LT Jason Scott, USCG MSU Valdez  
SPCO Records Center  
BLM Records Center  
Donna Schantz, PWS RCAC  
Linda Swiss, PWS RCAC  
Chuck Totemoff, Village of Chenega  
Travis King, Village of Chenega  
Kimber Moonin, Village of Tatitlek  
Mark Lynch, City of Whittier  
AnnMarie Lain, City of Valdez  
Tracy Raynor, Valdez Fire Department  
Randy Robertson, City of Cordova  
Mike Wells, Valdez Fisheries Development Association  
Rachel Kallander, Cordova District Fishermen United  
Ruth Knight, City of Valdez  
Tom Lakosh

SOA 005

**Application Package Distribution List**

Recipient	Organization	Address	City	State	Zip	Format requested	Email
Matt Carr	U.S. EPA Region 10 - Alaska Operations Office	Federal Bldg. Rm 537, 222 West 7th Avenue #19	Anchorage	AK	99513	Paper and CD	<a href="mailto:Carr.Matthew@epa.gov">Carr.Matthew@epa.gov</a>
CDR Michael Franklin	U.S. Coast Guard - Sector Anchorage, Marine Safety Unit, Valdez	P.O. Box 486	Valdez	AK	99686	Paper and CD	<a href="mailto:Michael.R.Franklin@uscg.mil">Michael.R.Franklin@uscg.mil</a>
Linda Swiss	Prince William Sound RCAC	3709 Spenard Road, Suite 100	Anchorage	AK	99503	Redacted Paper and CD	<a href="mailto:swiss@pwsrca.org">swiss@pwsrca.org</a>
Donna Schantz	Prince William Sound RCAC	P.O. Box 3089	Valdez	AK	99686	Redacted Paper and CD	<a href="mailto:schantz@pwsrca.org">schantz@pwsrca.org</a>
AnnMarie Lain	City of Valdez	P.O. Box 307	Valdez	AK	99686	Electronic web access	<a href="mailto:alain@ci.valdez.ak.us">alain@ci.valdez.ak.us</a>
Tracy Raynor	Valdez Fire Department	P.O. Box 307	Valdez	AK	99686	Electronic web access	<a href="mailto:traynor@ci.valdez.ak.us">traynor@ci.valdez.ak.us</a>
Chuck Totemoff	Village of Chenega	P.O. Box 8079	Chenega Bay	AK	99574	Electronic web access	<a href="mailto:cwt@chenegacorp.com">cwt@chenegacorp.com</a>
Kimber Moonin	Village of Tatitlek	P.O. Box 171	Tatitlek	AK	99677	Electronic web access	<a href="mailto:tatitlek.ira@yahoo.com">tatitlek.ira@yahoo.com</a>
Mark Lynch	City of Whittier	P.O. Box 608	Whittier	AK	99693	Electronic web access	<a href="mailto:mayor@whittieralaska.gov">mayor@whittieralaska.gov</a>
Randy Robertson	City of Cordova	P.O. Box 1210	Cordova	AK	99574	Electronic web access	<a href="mailto:citymanager@cityofcordova.net">citymanager@cityofcordova.net</a>

\*web access is available at <http://dec.alaska.gov/Applications/SPAR/PublicMVC/IPP/CPlansUnderReview>



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**OIL DISCHARGE PREVENTION AND CONTINGENCY PLAN  
BASIS OF DECISION**

October 23, 2017

**Plan Title:** Alyeska Pipeline Service Company Valdez Marine Terminal Oil Discharge Prevention and Contingency Plan

**Plan #:** 14-CP-4057

**Plan Holder:** Alyeska Pipeline Service Company

**Basis of Decision Prepared by:** Ron Doyel

**Findings**

This document presents the final findings that support the decision of the Alaska Department of Environmental Conservation (department) regarding the major amendment application package for the Alyeska Pipeline Service Company Valdez Marine Terminal Oil Discharge Prevention and Contingency Plan (plan).

Findings are provided to assist the interested public and participating reviewers in understanding the department's analysis of selected priority issues addressed as part of the decision process. In developing the findings, the department reviewed all public, agency and plan holder comments. This document is intended to respond to the most substantive issues raised by commenting parties. All department decisions must be supported by the regulations.

**Proposed Activity**

Alyeska Pipeline Service Company is requesting approval of its plan to amend the Valdez Marine Terminal. The proposed amendment includes changes for Volumes 1, 2 and 3 and addresses part of the department's condition of Approval (COA) Number 6 which requires submission of a update for VMT Scenario 4 by March 1, 2017. The proposed amendment also addressed the departments COA Number 5 which required the update of the non-mechanical response monitoring in the plan. Incorporation of new mechanical recover technology and tactictics into the Open Water response system was also a major componet of this amendment.

**Location**

Alyeska Pipeline Service Company conducts operations at the Valdez Marine Terminal.

**Environmental Risk**

A potential risk exists of oil spills entering the lands or waters of the state as a result of this operation.

**Authority**

Under AS 46.04.030, an owner or operator of a terminal facility must have an approved oil discharge prevention and contingency plan covering the facility. Through the plan review process, the department's objective is to ensure that the plan provides prevention and response measures that satisfy the state's regulatory requirements.

SOA 008

During the initial public review period, PWSRCAC requested that the department require the previously approved response training information be restored to the plan. The department found that the first version submitted by APSC for review did not include a detailed description of the training program for discharge response personnel as required by 18 AAC 75.425(e)(3)(I). APSC, through the RFAI process, submitted an updated training program that was reformatted to a table format. In the final public comment period, PWSRCAC questioned changes made to the training section during the process of reformatting this section.

The department has reviewed the changes to the field responder training descriptions and finds that the plan adequately describes the response training program. The module, and associated description and objective list for each course is sufficient to meet the detailed description of the training program required by 18 AAC 75.425(e)(3)(I). The following is in response to specific public comments on the changes or removal of some field response personnel training descriptions and specific training requirements:

- The SRVOSCP Course that was removed from several positions is a land operation course and therefore was not a relevant training for positions like Open Water Task Force Leader and other on-water response positions it was removed from.
- The Basic Marine Safety course that is necessary for on-water response personnel was not relevant to land-based positions like the Source Control Responder and therefore was removed from those positions.
- HAZWOPER was removed from some training programs for specific personnel because it is not required for non-field personnel like the Safety and Security Officers. Nonetheless, the department expects that all OSHA and other safety requirements are met for all responders so they are able to immediately carry out their roles in the response.
- Changes were also made for the ICS training that is required for each position but the department has reviewed this change and is comfortable with the Task Force Leaders getting the ICS/041 Task Form Leader/Group Supervisor training and not the ICS 202 Field Command training, because the training is specific for Task Force leaders.
- The job role numbers were deleted because they are not used in APSC's current training management program (AMS-011-01). The job role numbers were not defined in the plan, other than being associated with the job role. The job role remain in the plan. The job role titles are detailed enough and in conjunction with Appendix B of Volume 3 to describe the job roles of responders.

As laid out in Volume 1 Section 3.9 the Response Training is sufficient to meet 18 AAC 75.425(e)(3)(I) and 18 AAC 75.445(j). The department will continue to provide oversight to evaluate the adequacy of the response training program through attendance in training, evaluation of exercises, and training program audits. In order to effectively assess the training program, APSC continues to comply with the Condition of Approval No. 2 from the January 14, 2015 VMT plan renewal that requires APSC to provide the training schedule for all response training, including online, in-class and in-the-field training, and APSC ensures the department is notified of any changes to the schedule as soon as practicable to enable the department to attend training.

Flats was prioritized for immediate deployment the vessels necessary would be available. Both versions of Scenario 4 have three Sensitive Area Task forces; Sensitive Area Task Forces 1 and 2 begin deployment by hour 3 in both the previous and updated versions. Sensitive Area Task Force 3 starts at hour 12 compared to hour 48 in the previous version, allowing more sensitive area protection tactics to be completed in the updated scenario.

The 72-hour trajectory for the scenario shows oil moving west. The protection of sensitive areas east of the spill are protected later in the updated version of Scenario 4 than they were previously but are still completed prior to a trajectory showing oil moving toward them. Deployment of the Solomon Gulch Hatchery will begin by hour 12 and Valdez Duck Flats deployments will begin by hour 36. The deployments of the Solomon Gulch Hatchery and the Valdez Duck Flats are followed through to completion in the Response Actions tables and the Mobilization Chart. These timeframes are a way of organizing the scenario, but response actions will occur as soon as possible within these time frames. In a real incident, the Unified Command will work to ensure that response activities occur continuously as long as the conditions allow for safe operations including night operations.

The Valdez Fisheries Development Association states that APSC's plan should demonstrate the "best possible outcome for containment of the spill and the protection of stakeholder assets" as stated in their March 31, 2017 letter. Other commenters including the PWSRCAC, City of Valdez, and Cordova District Fishermen United also expressed concern that there is a loss in protection of the Solomon Gulch Hatchery and Valdez Duck Flats in this amendment. To ensure the best outcome for all sensitive areas and resources the department has to ensure that all response resources that are available are prioritized and used to ensure the best outcome for the state of Alaska as a whole. The Solomon Gulch Hatchery and Valdez Duck Flats remain high priorities for protection in the Port of Valdez. Tactics specific to the Valdez Duck Flats and the Solomon Gulch Hatchery remain in the plan, and the response timeframes and capability to deploy these tactics have not changed in this amendment. Equipment remains staged to deploy these specific sensitive areas. The Solomon Gulch Hatchery and Valdez Duck Flats remain the only sensitive areas in the port with equipment specifically designated to deploy them. Volume 3 Section 9.6 still commits APSC to installing permanent boom whenever fish fry are in the fish pens.

PWSRCAC was concerned about the overall reduction in response resources for sensitive area protection in the Scenario 4 updates. The department has reviewed the updates to the scenario and finds overall appropriate resources are deployed for sensitive area protection. The updates to Scenario 4 are sufficient for this review, but the department will continue to exercise sensitive area protection and evaluate equipment needs and prioritization strategies.

**Issue #6      Update of the Solomon Gulch Hatchery and Valdez Duck Flats Sensitive Area Protection Mobilization Decision Matrix**

Statement of Issue:

Ensure that the Matrix will be a useful tool in assisting initial decisions regarding sensitive area protection specific to the Duck Flat and Solomon Gulch Hatchery.



Regulatory Authority

18 AAC 75.425(e)(3)(J)(iii) requires “identification of which areas will be given priority attention if a discharge occurs.”

Finding

The Sensitive Area Prioritization Matrix in the plan is used as a way to make sure that some of the sensitive areas that may be affected in a spill, the Valdez Duck Flats and Solomon Gulch Hatchery, are identified to be “given priority attention” as required under 18 AAC 425(e)(3)(J)(iii). The intent of the Matrix is to incorporate the most relevant factors in an actual incident, and to assist in the initial decision-making process of whether to deploy the Valdez Duck Flats and Solomon Gulch Hatchery and to confirm this decision is made in a timely manner. However, as explained in Section 9.0.2.1 of Volume 3, exigent conditions must be taken into consideration so that responders are able to ensure that the spill containment recovery and sensitive protection can occur concurrently, based on incident specific objectives and prioritization.

The VMT plan identifies multiple sensitive areas in Port Valdez that should be given priority attention, and the Matrix is an additional step to ensure the Valdez Duck Flats and the Solomon Gulch Hatchery are evaluated for deployment in a timely manner.

Comments were received from PWSRCAC expressing concern for changes to the Matrix with the removal of wave height, visibility, and current direction. The previous Matrix was more complex and required the initial on-scene incident commander to evaluate conditions that were challenging to capture correctly and quickly. It was identified that the Matrix was not assisting in the prioritization of all sensitive areas in Port Valdez and was being used ineffectively in making initial decisions. With the previous Matrix, in exercises, resources were mandated to deployment of the Valdez Duck Flats and Solomon Gulch Hatchery when the resources would have been more appropriately deployed to other sensitive areas in Port Valdez. The updated Matrix has been modified to include the most influential initial inputs for decision-making early in a response before a Unified Command, Operations Section, and Environmental Unit can be stood up.

The department finds the updated Matrix does not change the commitment to evaluate and deploy the Valdez Duck Flats and Solomon Gulch Hatchery within the same timeframes. The department will continue to assess this updated tool in exercises to ensure its usefulness in appropriately prioritizing response actions.

**Issue #7      Decant Plans and Retention Time**

Statement of Issue:

Ensure retention times listed in the plan follow the vessel specific Load and Decant plans.

Regulatory Authority

18 AAC 75.425(e)(1)(F) requires the VMT plan to have the following:

(ix) procedures for transfer and storage of recovered oil and oily water, including methods for estimating the amount of recovered oil;

**Table 3.1-3.Scenario 3 - Day 1, Response Actions and Tactics**

<i>Formatted in accordance with ADEC 18 AAC 75.425(e)(1)(F)</i>	<b>Day 1 Initial Response 1900 – 2400 (Hours 0-5)</b>	<b>Day 1 (Night Shift continued) 2400 – 0600 (Hours 5-12)</b>	<b>Day 1 Day Shift 0600 – 1800 (Hours 12-24)</b>	<b>VMT Technical Manual Tactic Reference</b>
<p><b>Safety, Medical, and Security</b></p> <p><b>and</b></p> <p><b>(ii) Preventing/Controlling Fire Hazards</b></p>	<p>IRIC (VMT Operations Lead Operator) initiates the following:</p> <p>Security TF 1:</p> <ul style="list-style-type: none"> <li>Evacuate non-essential personnel.</li> <li>Control site access (<b>VMT-S-4</b>).</li> <li>Provide EMT support.</li> </ul> <p>Fire Protection TF 1:</p> <ul style="list-style-type: none"> <li>Secure ignition sources.</li> <li>Contact VMT Operations for potential facility shut down and source control.</li> <li>Assist with site control.</li> </ul> <p>Safety TF 1:</p> <ul style="list-style-type: none"> <li>Ensure proper headcount - all personnel clear of area.</li> <li>Perform atmospheric monitoring.</li> <li>Conduct ICS 201-5 Site Safety &amp; Control Analysis (<b>VMT-S-1</b>).</li> <li>Begin preparation of ICS 208 Site Safety Plan (<b>VMT-S-2</b>).</li> </ul>	<p>IMT:</p> <ul style="list-style-type: none"> <li>Submit Site Safety Plan for approval.</li> </ul> <p>Security TF 1:</p> <ul style="list-style-type: none"> <li>Re-evaluate site control and modify as needed.</li> </ul> <p>Fire Protection TF 1:</p> <ul style="list-style-type: none"> <li>Evaluate changing conditions for fire risks.</li> <li>Fire team on standby to assist Safety Task Force as needed.</li> </ul> <p>Safety TF 1:</p> <ul style="list-style-type: none"> <li>Continue atmospheric monitoring for vapor levels.</li> <li>Provide Safety support for atmospheric monitoring, safety briefings, PPE checks, and decon checks (<b>VMT-S-3</b>).</li> </ul>	<p>IMT:</p> <ul style="list-style-type: none"> <li>Monitor conditions and adjust plans accordingly.</li> </ul> <p>Security TF 1:</p> <ul style="list-style-type: none"> <li>Provide Security for VEOC and staging areas, as needed.</li> </ul> <p>Fire Protection TF 1:</p> <ul style="list-style-type: none"> <li>Evaluate changing conditions for fire risks.</li> </ul> <p>Safety TF 1:</p> <ul style="list-style-type: none"> <li>Conduct continuous atmospheric monitoring.</li> </ul>	<p><b>VMT-S-1</b> Site Entry Procedures and Site Characterization</p> <p><b>VMT-S-2</b> Site Safety Plan Development</p> <p><b>VMT-S-3</b> Personal Protective Equipment</p> <p><b>VMT-S-4</b> Site Control</p> <p><b>VMT-S-5</b> Personnel Decontamination (typical/dry)</p>

## Section 3.1 VMT-S-1, Site Entry Procedures and Site Characterization

### 3.1.1 Tactic Description

This tactic is designed to reduce the health and safety risks for responders in responding to spills with potentially harmful vapors emanating from the spilled material. Site characterization is a three-step process including (1) preliminary evaluation using a pre-entry survey, (2) initial site characterization, and (3) ongoing site characterization and monitoring. Field measurements and communication of information to responders are extremely important to minimize risk.

Site characterization is initiated from a safe distance and operations are conducted in a manner that ensures safe conditions for the level of respiratory protection being used. For example, the spill is approached from upwind to avoid exposure to vapors.

The Initial Response Incident Commander (IRIC), in most cases, initiates the process carried out by other persons. The IRIC checklist can be found in Appendix B. In the case of a spill to water, the first APSC vessel on scene begins site characterization with a pre-entry survey. While on land, site characterization is carried out in accordance with [SA-38](#), *Corporate Safety Manual*, and initiates with a pre-entry survey similar to that of the on-water survey.

Additional reference material is available in [SA-38](#), Section 1.5, “*Crude Oil or Petroleum Product Spill Emergency and Post Emergency Response*,” and Section 1.8 “Respiratory Protection,” Table 7, “Respiratory Protection Selection for Selected Contaminants.”

### 3.1.2 Pre-entry Survey

The survey includes, but is not limited to, identifying the following:

- Conditions that through either inhalation or skin absorption are immediately dangerous to life and health (IDLH) or pose other life-threatening hazards.
- Potential ignition sources.
- Type of material discharged.
- Approximate quantity or description of spilled material.
- Location of spill incident.
- Time the discharge occurred.
- Cause of the discharge.
- Weather conditions on site [wind, sea state (wave height), state of tide, ice conditions].
- Results of any air sampling that has been completed.
- Whether internal combustion engines are normally allowed in the area.
- Other on site problems/factors that must be considered before initiating a response.

The results of the pre-entry survey are reported to the Operations Section or SERVS Duty Officer (see *Form ICS 201-5*, *Site Safety and Control Analysis*, or the *Tactical Command Worksheet*). The pre-entry survey serves as a basis for initial site characterization and determination of appropriate personal protective equipment (PPE).

consideration. It is the responsibility of the Unified Command/Incident Commander or, if early enough in the response, the IRIC to gather incident specific information so incident objectives and prioritization of tasks can be made that enable responders to execute spill containment, spill recovery/mitigation, and sensitive area protection actions simultaneously.

To use the matrix, extract the value for the on scene conditions for each row, and add the resulting values. A score equaling or exceeding 12 indicates immediate action should be considered.

**Table 9.0-1. Solomon Gulch Hatchery and Valdez Duck Flats Sensitive Area Protection Mobilization Decision Matrix**

**Instructions:**

Select the value for the current on-scene conditions for each potential impact area; add the resulting scores. An event total equal or greater than 12 indicates immediate action should be considered.

POTENTIAL IMPACTS	ASSESSMENT CRITERIA	VALUE	SCORE
<b>MAGNITUDE OF DISCHARGE</b>	> 10,000 bbl or Unknown	4	
	101 bbl to 10,000 bbl	3	
	5 bbl to 100 bbl	2	
	< 5 bbl	0	
<b>SOURCE CONTROL</b>	Unsecured or Unknown	2	
	Secured	0	
<b>CONTAINMENT *</b>	Port Valdez Uncontained	4	
	Port Valdez Contained	3	
	Has Entered Settlement Pond System	1	
<b>TIDE CYCLE AT DISCHARGE *</b>	> 2 hrs. Flood Remaining	2	
	Ebb	0	
<b>CURRENT WIND VELOCITY *</b>	30+ Knots	2	
	10-29 knots	1	
	0-9 knots	0	
<b>CURRENT WIND DIRECTION *</b>	From West	5	
	From South	5	
	From East	0	
	From North	0	
<b>EVENT TOTAL</b>			

\*Potential impact score is zero (0) for events currently isolated to land.

**Note:** The total estimated deployment time for both Solomon Gulch Hatchery and the Valdez Duck Flats, when done simultaneously, would range from six hours in favorable conditions, to ten or more hours in unfavorable conditions.

The matrix is guidance for initial decision making and it is expected that once the IMT is available to prioritize sensitive areas, the matrix is no longer the most appropriate tool.

### **9.0.3 Safety Aspects Of Sensitive Area Protection**

Safety is the most important consideration in response. The safety tactics detailed in Section 3 provide a foundation for the conduct of safe response operations. The Group Supervisor and Task Force Leaders have the lead accountability for assuring safety. An On-Site Safety Specialist (OSS) will normally be assigned to the Nearshore group to assist in ensuring the safe conduct of response operations.

Specific safety issues include:

- Many of these deployments involve towing equipment in shallow water. Care must be taken when working close to the shoreline.
- Some of the deployments involve going ashore to attach boom to anchor points. Care must be taken to avoid contact with potentially dangerous wildlife.

Care needs to be exercised when working on oiled shorelines to avoid slips, trips and falls. Caution needs to be exercised when workers move from the support boats to the shore.

### **9.0.4 Communications**

Before sensitive area protection deployments begin, each responder will be briefed on the communications plan, which will cover communication methods such as types of radios to use and the channels designated for field operations (see Tactic VMT-LP-2, [Section 12.2](#)).

**Table 12.5-8. Oil Recovery Equipment - "Vacuum Systems"**

Quantity	Vacuum System	No. /Vacuum System/ Weight and Dimensions	Nameplate Recovery (BBL/HR)	Auxiliary Equipment
1	Shorevac*	<ul style="list-style-type: none"> <li>Weight (lbs): 902</li> <li>Dimensions: 69 in. x 47 in. x 48 in.</li> </ul> Operational Characteristics and Limitations: <ul style="list-style-type: none"> <li>Hand lance can be fitted with different nozzles as dictated by the local environment</li> </ul> Location/Ownership: <ul style="list-style-type: none"> <li>APSC</li> </ul>	Up to 1,195	<ul style="list-style-type: none"> <li>Hand Lance</li> <li>Vacuum Head</li> <li>Storage Drums</li> <li>Trailer</li> <li>Suction and Discharge Hoses</li> </ul>
1	Ro-Vac	<ul style="list-style-type: none"> <li>Weight (lbs): 1,540</li> <li>Dimensions: 78 in. x 58 in. x 74 in.</li> </ul> Operational Characteristics and Limitations: <ul style="list-style-type: none"> <li>N/A</li> </ul> Location/Ownership: <ul style="list-style-type: none"> <li>VRC VMT/ APSC</li> </ul>	Up to 2,000	<ul style="list-style-type: none"> <li>Hand Lances</li> <li>Vacuum Head</li> <li>Storage Drums</li> <li>Suction and Discharge Hoses</li> </ul>

\*The vacuum system listed in Table 12.5-17, Shoreline Unit Contents is included in these totals.

**Table 12.5-9. Boom Inventory and Operating Limits**

Boom Type*/**	Quantity	Tactically Assigned	Operating Limits* (Wave Height)
Open Water	5,800 ft.	2,500 ft.	0-6 ft.
Calm Water	36,650 ft.	8,300 ft.	0-3 ft.
Fire Boom	3,600 ft.	2,500 ft.	0-3 ft.
Snare Boom	9,000 ft.	None	N/A (placed on shore)
Sorbent (Sausage) Boom	4,000 ft.	None	Calm water only
Intertidal Boom	4,150 ft.	All***	N/A (placed along shore)
Current Buster 2 or 4	10 Systems	2 Systems	0-6 ft.
Current Buster 8	2 Systems	2 Systems	0-6 ft.

\*Boom types and operating limits based on ASTM information and the World Catalog of Oil Spill Response Products.

\*\* The Boom listed in table Table 12.5-17, Shoreline Unit Contents is included in these totals.

\*\*\* 2500 ft. of the intertidal boom may be substituted with calm water boom.

**Table 12.5-10. Boom Anchor Systems**

Anchor Type (lbs.) *	Quantity
10-100	30
101-250	10
251-500	6

\*The anchors listed in Table 12.5-17, Shoreline Unit Contents are included in these totals.

**Table 12.5-11. Pumps - Nearshore / Shoreline**

Pump Type*	No.	Weight (lbs.)	Capacity (BBL/HR)	Location	Owner-ship
Centrifugal 4"	4	3,200	1,107 at 85 psi	VRC	APSC
Centrifugal 6"	2	3,200	2,000 at 85 psi	VRC	APSC

\*The pumps listed in Table 12.5-17, Shoreline Unit Contents are included in these totals

- iv. Revise the table in Section 12.7.6.1 Availability Status Tracking to reflect the number of fishing vessels required to respond to a RPS volume oil spill occurring during any time of the year. *See Findings Document, Issue No. 22.*  
*These edits are required per 18 AAC 75.432 and 18 AAC 75.445(g)(1) as APSC has not successfully demonstrated that these resources are not necessary for an RPS volume response.*
- v. Section 15, Berth Operations Tactics. Include pre-deployed boom for exclusion and diversion for Berths 4 and 5. *This edit is required for accuracy and depiction of APSC response strategies.*
- w. Appendix A, Equipment Descriptions. Please update citations. *These edits are needed for accuracy.*
  - i. A.1-5 Oil Storage Barge – Barge 450-7. Please correct the citation for storage capacity of barge 450-7 to reflect its location in Section 12, Table 12-15.
  - ii. A.2 Skimmers. Please update this section to provide references to the appropriate tables in Section 12 of Volume 3 for recovery rates and capacity.

### **Condition of Approval No. 2: Requirement to Provide Prevention and Response Training Schedules.**

APSC is required to submit schedules for prevention and response training to the department:

- a. The prevention training schedule shall be submitted annually and training notices as they are distributed with updates as needed to allow for agency observation and evaluation. Further discussion provided in Issue No. 13 in the attached findings document.
  - i. The training schedule for response training shall be submitted annually, including online, in class and in the field training, and with updates as needed to allow for agency observation and evaluation. Further discussion can be found in Issue No. 17. *[Revised]*.

The initial prevention and response training schedules must be submitted **within 90 days of this approval** with subsequent submittals due to the department by **January 5 of each year**.

*This condition is reasonable and necessary to ensure the department is able to verify training plans and respective training area sufficient to meet the requirements of 18 AAC 75.020 and 18 AAC 75.445(j).*

### **Condition of Approval No. 3: Requirement to Modify Sensitive Area Protection components of the plan.**

APSC is required to make the following modifications in order to ensure the plan includes effective and readily implementable strategies and tactics for protection of environmental sensitive areas and areas of public concern.

- a. APSC must conduct additional research for the purpose of verifying that the Solomon Gulch Hatchery and Valdez Duck Flats Sensitive Area Mobilization Decision Matrix contained an unintentional duplication for visibility as a consideration for deployment. Alyeska must provide the department with a summary of their findings no later than **March 1, 2015**. This requirement is discussed further in Issue No. 23.
- b. APSC must restore the sensitive area deployment strategies, resources and equipment for the Valdez Duck Flats and Solomon Gulch Hatchery **prior to publishing the plan**. This requirement includes restoration of committed personnel and equipment resources and simultaneous deployment of the east and west sides of the Valdez Duck Flats. This requirement is discussed further in Issue No. 23.
- c. Over the course of this plan approval, Alyeska is required to work with SPAR, the U.S. Coast Guard, contingency plan holders in Port Valdez, and other stakeholders to improve the Geographic Response Strategies (GRS) for Port Valdez so they are robust and adequately protect sensitive areas potentially impacted by Alyeska's operations. Once that

apparent that this is not an effective way to manage the plan content. At multiple exercises it was clear that responders and planners were unaware of the SATG and its contents. The department agrees with PWS RCAC that it is important for the SATG strategies and tactics to be consistent with the general strategies and tactics for sensitive area protection found in Volume 3, and that it would be better for all of the site-specific protection strategies to be located in one document. Likewise, the department agrees that the strategies in the SATG should be kept current through training or discharge exercises. Therefore, as a component of Condition of Approval No. 3, the department is requiring APSC to:

- a. Format the tactics in the SATG to reflect the format of the tactics described in Volume 3;
- b. Include the updated site-specific strategies and tactics in Volume 3; and
- c. Commit to deploying each of the sensitive area strategies during the course of the plan renewal cycle. Deployments may be conducted through regular training exercises or within the discharge exercise program. In either case, the department must be notified of the deployments sufficiently in advance to observe them. Any lessons learned must be incorporated into the plan. Any resulting plan amendments will be reviewed in accordance with department regulations.

Mr. Tom Lakosh stated that there needs to be immediately deployable pre-positioned response equipment at sensitive areas in Port Valdez such as automatically deployed deflection boom and culvert gates. Mr. Lakosh did not provide compelling reason to support that APSC is incapable of protecting sensitive areas and areas of public concern with industry standard resources of personnel, boats, and boom. The department's statutes and regulations do not support requiring the plan holder to acquire equipment and other resources beyond those needed to demonstrate the ability to protect sensitive areas and areas of public concern before oil reaches those sites and control the further spread of oil.

The department's analysis and decisions concerning plan commitments to protect environmentally sensitive areas and areas of public concern extend beyond the specific comments received during the review period. The plan holder must be capable of protecting sensitive areas in Port Valdez while simultaneously containing and controlling the further spread of oil in a catastrophic incident. The proposed plan includes strategies, tactics and site specific strategies for protection of sensitive resources, including the site specific strategies in the SATG as discussed above. In addition, a rapid decision Matrix and specific strategies for the prioritized protection of the Valdez Duck Flats (Duck Flats) and Solomon Gulch Hatchery have been captured in Volume 3 of the plan. Nonetheless, the department finds that we cannot accept some of the proposed modifications, specifically those to the Duck Flats and Solomon Gulch Hatchery protection plans at this time.

The prioritization of the Duck Flats and Hatchery has been captured in multiple plan review decision documents, notably in 1997 and in 2000. The primary concerns throughout the years of working on developing protective strategies were that APSC had the personnel and equipment resources to deploy those protections simultaneously with on-water control and containment efforts and secondly, that the protections would be in place in a timeframe that would reasonably be completed before oil would reach either location. The timing goals were implemented following the real life experience of the T/V Eastern Lion discharge in 1994, when both the Duck Flats and Hatchery experienced oil sheening well before predictive models would have anticipated.



In collaboration with a multi-stakeholder workgroup including state and federal trustee agencies, and as a condition of plan approval in 1997, APSC developed the Solomon Gulch Hatchery and Valdez Duck Flats Sensitive Area Protection Mobilization Decision Matrix (Matrix.) The Matrix provides criteria and assessment points for use by the initial incident commander within the first one or two hours of a spill. In this plan application, APSC has slightly modified the Matrix to remove what seems to be a duplication for purposes of scoring whether or not to immediately deploy the protective strategies regarding visibility. The department agrees that the duplication may be an error and that it is unlikely to cause significant delays in deployment decisions. However, we are requesting APSC to review their records to verify whether the duplication was an intentional component of the matrix. Since no one on the APSC plan team participated in the Matrix development, it seems prudent to conduct the research. The department is not, however, requesting APSC to restore the Matrix to its original scoring configuration at this time, see Condition of Approval 3a.

As part of past conditions of approval, APSC worked to be able to deploy both Valdez Duck Flats and Solomon Gulch Hatchery protection tactics within 6 – 10 hours of the decision to implement them. On February 19, 2002, the department and BLM representatives from the Joint Pipeline Office conducted an unannounced discharge exercise to determine whether APSC responders could meet the timing and effectiveness expectations. APSC responders successfully deployed the protections for both sites, and the successful strategies, including resource needs, were incorporated into the plan through an approved amendment on June 27, 2002. APSC caveats the deployment timeframe in the proposed and past plans by stating that it may be longer in “unfavorable conditions”. The department notes that there is no specific definition provided for “unfavorable conditions”. As acknowledged in the department’s October 8, 1999 approval of the completion of the 1997 Condition of Approval No. 8 – Environmentally Sensitive Areas and Shoreline Protection, deployment of protective strategies will take longer in RMROL conditions. It is expected that in non-RMROL conditions, however, APSC will effectively and simultaneously deploy the Duck Flats and Solomon Gulch Hatchery protections in no more than 10 hours.

The department’s definition of when a site is protected means the oil would not impact the sensitive area if the oil was to reach the sensitive area protection mechanism. In the case of the Valdez Duck Flats and Solomon Gulch Hatchery, the protection mechanism is exclusionary boom using intertidal boom in combination with calm water boom. The intertidal boom APSC uses has three chambers, one chamber on top of the boom filled with air for buoyancy and two chambers on the bottom of the boom filled with water to both seal the shoreline and provide a skirt to the boom to prevent oil from reaching the protected area. The water chambers are a critical component to protect the sensitive area by providing the protection on the beach when the tide is lower and in the water when the tide is higher. If these chambers are not filled, the boom is ineffective.

Personnel and equipment resources committed to protection of the Valdez Duck Flats and Solomon Gulch Hatchery have been reduced in the plan application, and the Duck Flats strategy was modified so that the east and west sides are deployed sequentially rather than simultaneously. To date, the proposed strategies have not been successfully implemented in two discharge exercises (May and September 2014) nor in multiple training exercises in the intervening months. The problems range from failure to complete the boom deployment (i.e., filling the water chambers), successfully monitoring and adjusting the boom deployments through tide cycles and in periods of darkness, and not being able to complete both site deployments within the 6 – 10 hour timeframe

stated in the plan. Initially, it was thought that some of the difficulties were due to training, but APSC ramped up training and showed significant improvement in the September 4, 2014, exercise.

The September 4, 2014 exercise was designed by APSC to demonstrate that APSC could protect these sensitive areas within the required timeframe of 6-10 hours with the proposed reduction in personnel and equipment. The department evaluated this exercise. By hour 10 the exclusion boom was in place but the water chambers were not all filled, and consequently the boom skirt and shoreline seal was not thought to be effective to prevent oil from impacting the sensitive area inside the boom.

The department finds the reduction in personnel and vessels reduced APSC's ability to protect the sensitive areas within the required timeframe because the resources are not available to fill the water chambers during the required timeframe during low water. APSC's method of filling the water chambers is problematic for three reasons: the boom will not have an effective skirt to prevent oil from migrating under the boom into the sensitive area until all of the chambers are full, the tide may not be able to fill the boom to the same pressure as the water pumps, possibly reducing the effectiveness of the boom, and with the water valves open to allow the tide to fill the water chambers, if oil is present, then the boom may be filled with oily water, creating a difficult waste management problem.

APSC has asserted that it is not necessary to fill the water chambers to achieve effective protection, and that allowing the chambers to fill on an incoming tide is adequate. The difficulty with this assumption, particularly with the time sensitive nature of protecting the Solomon Gulch Hatchery and Valdez Duck Flats, is that the incoming tide may likely bring oil or oil sheen with it. Without an effective boom skirt provided by properly filled water chambers, it is not likely that the sites will be effectively protected in average conditions, including the conditions used in the RPS volume scenario. The manufactures websites for the main manufactures of intertidal boom that may be used by APSC all recommend the use of water pumps to fill the water chambers and do not mention the method APSC uses of allowing the tide to fill the water chambers. One manufacture contacted by phone on November 19, 2014, Versetech, did not recommend using the tide to fill the boom.

To date, APSC has not demonstrated that timing and completeness of the deployments is fully achievable, and the department cannot approve the revised strategies and reduced resource commitments with no plausible expectation that as devised, they will provide effective protection of the Duck Flats and Hatchery before oil reaches them. As a result, the department is requiring APSC to restore the Duck Flats and Hatchery protection strategies, including sequencing and personnel and equipment resources to the plan as part of Condition of Approval No. 3b.

The department encourages APSC to take full advantage of the agency and stakeholder participation in the VMT Coordination Group to assess the resources and strategies necessary to protect the Duck Flats and Hatchery. Re-assessment may lead to proposed reductions in resources, and if so, APSC is welcome to demonstrate they can implement protective strategies with fewer resources and then submit an amendment to the plan for review.

- High winds driving water against booms may put pressure on anchor points that can result in failure of boom moorings.
- Most skimmers are stable enough to operate in rough sea conditions associated with high winds. Skimming efficiency is reduced by waves that accompany high winds.
- Winds affect the launching and recovery of skimmers. Launching and recovery may be undertaken safely on the lee side of barges and boats.
- Strong winds may make it dangerous for personnel to operate on a vessel's deck.
- Safety considerations limit launching, recovering, or operating small skiffs and workboats in strong winds and seas.
- Large vessels and tugs are largely unaffected by strong winds; however, crews may not be able to perform response tasks on deck or over the side due to safety considerations.
- Both strong winds and flat-calm conditions affect dispersant and burning efficiencies.

### 3.4.3.2 Sea State, Tide and Current Considerations

Sea state is a function of wind, currents, and in shallow areas, tidal levels. Tides generally do not impact an open water response, unless strong tidal currents occur in combination with wind. For example, in some areas of PWS, half tide on the ebb or flood against a strong wind can create a sea state that affects safety or efficiency of response operations. If wind and tidal currents are sufficiently strong, they could preclude a response. A rule-of-thumb RMROL condition for wave height is 3 meters (10 feet); although this is heavily influenced by wavelength or period and ambient temperature, visibility and precipitation also affect this limitation. Tide tables are readily available to responders and tidal predictions are included in IAPs for the benefit of spill responders.

Currents in Port Valdez and Valdez Narrows are influenced by the flow of fresh water into the port on a seasonal basis. Certain locations in Port Valdez, such as the east end of the port, Jackson Point/VMT, and Valdez Narrows, can experience more pronounced local influences during certain times of the year. These local influences occur during a portion of the time period of mid-April to the end of September, roughly six months of the year. Expressed as an estimated percentage this could be 40 percent of the year. The combined overall effect to oil spill response operations is slight.

The impact of tides and currents are determined on a case-by-case basis. A summary of sea state limitations is provided in [Table 3.4-1](#). Sea State, Tide, and Current Considerations Summary:

- Mechanical containment, recovery equipment, and in-situ burning function best in calm seas.
- Use of boom for exclusion and entrapment must consider current so as to minimize impact of entrainment.
- Heavy seas often preclude beach landings.
- Short, choppy waves generally limit response equipment efficiency; however, longer-period swells do not usually impede efficiency.
- Launching and recovery of skimmers is affected in rough sea conditions.
- Decks awash in heavy seas may make it dangerous for personnel to work.
- Small launches and workboats may not always be safely launched, recovered, or operated in strong winds and seas.

- Large vessels and tugs are generally unaffected by large seas; however, the crews may not be able to perform response tasks on deck or over the side.
- Sea states can be dampened by thick oil. Different tide cycles produce differing sea states requiring different approaches to response.
- Heavy seas combined with low temperatures may contribute to vessel icing and create safety concerns for the vessel and crew.
- In some circumstances, sea states resulting from winds greater than 30 knots can drive oil below the surface and mix into the top 20 feet of the sea.
- Heavy sea states may hamper or preclude rescue of endangered personnel from shorelines, distressed vessels, or man overboard.
- Water depth is a significant consideration in carrying out oil spill response operations.
- Shallow depths can constrain oil removal operations by restricting use of watercraft and equipment.
- Small vessel access also can be affected by water depth because sea conditions can change rapidly in deep bay areas.

**Table 3.4-1. Summary of Wind and Sea Limitations**

<b>Response Method</b>	<b>Conditions that could Adversely Impact a Response and Frequency of Occurrence and Duration</b>	<b>Potential Temporary Prevention and Response Measures that could be Considered during RMROL Conditions</b>
<b>Mechanical</b>	<ul style="list-style-type: none"> <li>• Winds greater than 30 to 40 knots, but dependent on the impact of other variables.</li> <li>• Winds of 30 knots are reached or exceeded on an annual basis approximately 2 percent of the time. Winds of 30 knots are reached or exceeded in the summer less than approximately 1 percent of the time. Winds of 30 knots are reached or exceeded in the winter approximately 3 percent of the time.</li> <li>• Winds 40 knots or above occur less than approximately 1 percent in the winter.</li> <li>• Seas greater than 3 meters (10 feet) with strong tides and currents.</li> <li>• RMROL conditions for seas are reached or exceeded on an annual basis approximately 5 percent of the time. RMROL conditions for seas are reached or exceeded in the summer less than approximately 2 percent of the time. RMROL conditions for seas are reached or exceeded in the winter approximately 15 percent of the time.</li> <li>• Currents of one knot are exceeded approximately 25 percent of the time, which requires skimming and containment to be done with the current.</li> </ul>	<ul style="list-style-type: none"> <li>• Additional monitoring of boom for splash over. Consider use of larger boom.</li> <li>• As a safety measure, responding vessels mobilizing to the spill site advised to travel in groups via sheltered routes.</li> <li>• The response organization will maximize oil recovery for the conditions by focusing resources where they can work efficiently.</li> <li>• Skimming and containment activities will make use of lees and reduced fetch by operating behind landmasses.</li> <li>• Skimming vessels will work downwind/ current to minimize entrainment.</li> </ul>
<b>Dispersants</b>	<ul style="list-style-type: none"> <li>• Winds greater than 27 knots across the track of the dispersant aircraft would likely preclude airborne application of dispersant.</li> <li>• Winds of 30 knots are reached or exceeded on an annual basis approximately 2 percent of the time. Winds of 30 knots are reached or exceeded in the summer less than approximately 1 percent of the time. Winds of 30 knots are reached or exceeded in the winter approximately 3 percent of the time.</li> </ul>	<ul style="list-style-type: none"> <li>• Dispersant application limited to directly downwind and upwind to avoid inaccurate application in high winds.</li> </ul>
<b>In-Situ Burning</b>	<ul style="list-style-type: none"> <li>• Winds greater than 20 knots make it difficult to ignite oil or maintain the burn.</li> <li>• Winds of 20 knots are reached or exceeded on an annual basis approximately 25 percent of the time. Winds of 20 knots are reached or exceeded in the summer less than approximately 10 percent of the time. Winds of 20 knots are reached or exceeded in the winter approximately 30 percent of the time.</li> <li>• In-situ burning is limited by sea state in much the same way as mechanical response, because in-situ burning requires the use of fire boom containment.</li> </ul>	<ul style="list-style-type: none"> <li>• There are no alternatives available</li> </ul>

**Table 3.4-2. Wind Speed Data – Valdez, Alaska**

Month	Average Speed mph (1996-2005)	Highest Obs. 2 minute mph/ direction	Peak Gust mph / direction	Days 30 mph 1min.	Days 30 mph 1min.	% Days 20 mph	% Days 30 mph	% Days 30 mph	% Days 40 mph	Prevailing Wind Direction (1992-2006)
January	7.9	58/360	94/N	5	2	0	16%	6%	0	ENE
February	5.1	56/340	83/NE	5	4	0	17%	14%	0	ENE
March	6.9	46/350	82/NE	2	2	1	6.4%	6.4%	0	ENE
April	5.2	46/010	6/3N	0	0	0	0	0	0	ENE
May	5.8	30/030	52/NE	0	0	0	0	0	0	WSW
June	6.0	35/030	56/NE	1	0	0	3.3%	0	0	WSW
July	4.8	24/280	41/N	0	0	0	0	0	0	WSW
August	4.2	32/360	56/N	0	0	0	0	0	0	WSW
September	4.4	46/010	69/SW	1	0	0	3.3%	0	0	WSW
October	6.2	40/010	69/N	1	0	0	3.2%	0	0	ENE
November	6.2	53/010	77/N	4	2	1	13%	6.6%	3.2%	ENE
December	7.4	54/350	75/N	1	0	0	3.2%	0	0	ENE

<sup>1</sup>Winds in areas of Port Valdez, Valdez Narrows, and Valdez Arm are highly localized and variable.

<sup>2</sup>Winds at VMT can be higher than winds at National Weather Service (NWS) office when direction is from the north.

<sup>3</sup>The data as presented provides a reasonable basis to describe the environmental conditions in the area of concern. As with any summary data, actual conditions may be better or worse at specific locations at specific times.

### 3.4.4 Visibility and Precipitation

Darkness, fog, heavy rain, falling snow, and low clouds reduce visibility, which may affect flight and vessel operations and make it difficult to find spilled oil. These environmental conditions may vary in the Port Valdez area. Therefore, different areas may not experience the same constraints. [Table 3.4-3](#) summarizes visibility and precipitation limitations. See [Table 3.4-4](#) for annual mean sky cover and [Table 3.4-5](#) for annual precipitation data.

Flight surveillance operations limitations are based on visual flight rules for rotary and fixed-wing aircraft. They are:

- 500-foot ceiling and one-mile visibility if in sight of land, or
- 500-foot ceiling and three-mile visibility if over open water and land is not in sight.

Booming and skimming vessels require between 0.125 nautical miles (nm) (200 meters) and 0.5 nm (800 meters) of visibility, depending on temperature, sea state, wind, and precipitation. A visibility RMROL affects response vessels differently depending on whether they are already engaged in oil recovery or are seeking oil to recover. Vessel Captains set operating limits for their vessels when actively booming and skimming in oil based on safety and operating efficiency. Vessels seeking oil and requiring aircraft surveillance are subject to the aircraft minimums presented above.

On-hand response tactics generally are not impacted by visibility and precipitation conditions.

#### 3.4.4.1 Visibility Considerations

- Darkness, fog, falling snow, heavy rain, and low clouds hinder aircraft surveillance and

vessel operations.

- Response vessel operations generally remain effective in conditions that preclude aircraft operations unless the vessels cannot locate oil.
- Blowing snow can cause “white-out” conditions that make travel and work dangerous or inefficient.

Precipitation may contribute to poor visibility and create other problems. Heavy rain, snow accumulation, or freezing rain make equipment difficult to handle and may result in dangerous operating conditions. A RMROL based solely on precipitation may not be defined except in those cases where it causes poor visibility or dangerous operating conditions. The impact of precipitation may also be influenced by temperature, sea state, wind, and visibility.

#### **3.4.4.2 Precipitation Considerations**

- Fog, falling snow, heavy rain, and low clouds may hinder aircraft, vessel, and vehicle operations and surveillance.
- On-hand and response vessel operations generally remain effective in conditions that preclude aerial surveillance unless the vessel operation is not able to locate oil.
- Certain rain conditions may calm the water surface, making containment and recovery easier.
- Moderate to heavy snowfall can cover grounded oil, making detection difficult.
- In some circumstances, snow may be an effective sorbent, with dry snow usually acting as a better sorbent than wet snow.
- The potential for vessel-superstructure and equipment icing varies in the Port Valdez area and may affect a vessel’s operations, communications, and navigation equipment.
- Icing caused by freezing rain may limit the effectiveness of spill response equipment and affect personnel, vessel, and vehicle safety.

### 3.4.6 Ice and Debris

Ice can create unsafe working conditions and impact the efficiency of a mechanical response. Ice can be present as glacial ice, sea ice, shorefast ice, or superstructure icing. Ice of any type is short-lived in the Port of Valdez and typically does not last beyond one or two days. Debris occurs in the form of logs, tree limbs, sticks, and seaweeds. Debris in all ranges of size can be found in Port Valdez and Valdez Arm in varying volumes on a seasonal basis. Operational strategies should contemplate alternative tactics when ice and debris are present in volumes anticipated to impact operation.

Ice and debris considerations are:

- Glacial ice may require on-water operations to work around icebergs.
- Booms and skimmers can be affected by ice accumulation and debris. Single icebergs and large volumes of small ice pieces can impact and breach containment boom.
- Glacial ice may benefit a response by trapping and concentrating the oil.
- Large pieces of ice and debris can be moved by boats to keep them away from booms.
- Concentrations of smaller pieces of ice can sometimes be deflected away from containment boom by use of durable boom.

**Table 3.4-8. Summary of Ice and Debris Limitations**

<b>Response Method</b>	<b>Conditions that could Adversely Impact a Response and Frequency of Occurrence and Duration</b>	<b>Potential Temporary Prevention and Response Measures that could be Considered during RMROL Conditions</b>
<b>Mechanical</b>	<ul style="list-style-type: none"> <li>• Glacial ice and, in sheltered areas, sea ice and shorefast ice that persist over the entire response area for the entire time of the response.</li> <li>• Glacial ice sometimes occurs during summer and fall. In sheltered areas, sea ice and shorefast ice can occur during winter. These conditions can be expected to last from a few hours to several days, or more.</li> </ul>	<ul style="list-style-type: none"> <li>• Response organization will maximize oil recovery for the conditions by focusing resources where they can work efficiently.</li> <li>• Responding vessels mobilizing to the spill site are advised to travel in groups.</li> </ul>
<b>Dispersants/ In-Situ Burning</b>	<ul style="list-style-type: none"> <li>• Glacial ice and, in sheltered areas, sea ice and shorefast ice that persist over the entire response area for the entire time of the response, will not preclude a burning response. Ice will restrict the spread of oil.</li> <li>• Glacial ice sometimes occurs during summer and fall. In sheltered areas, sea ice and shorefast ice can occur during winter. These conditions can be expected to last from a few hours to several days or more and may vary throughout PWS. Glacial ice in the areas transited by tank vessels is of such limited extent that its effect on non-mechanical methods is considered minimal. Dispersant use in widely scattered ice (10 percent or less) is unaffected. Dispersants may not be used in sheltered bays where shorefast ice may occur.</li> </ul>	<ul style="list-style-type: none"> <li>• No alternatives available</li> </ul>



# Valdez Marine Terminal CP-35-2 Volume 3



## Oil Discharge Prevention and Contingency Plan

## VMT Technical Manual



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## Oil Discharge Prevention and Contingency Plan

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**VMT-SA-1, Sensitive Area Protection Strike Team:** This tactic describes the minimum resources required for each strike team and the operational considerations for Sensitive Area Protection.

**VMT-SA-2, 3, 4, and 5 Reserved:**

**VMT-SA-6, Deployment Plan for Solomon Gulch Hatchery:** Describes the main equipment stored at this location and the general boom deployment configuration.

**VMT-SA-7, Deployment Plan for Duck Flats:** Describes the main equipment stored at this location and the general boom deployment configuration.

**VMT-SA-8, Reserved:**

**VMT-SA-9, Shoreline Protection By Exclusion Booming:** Describes the tactic and operational considerations.

**VMT-SA-10, Shoreline Protection By Deflection Booming:** Describes the tactic and operational considerations.

**VMT-SA-11, Shoreline Diversion/Entrapment:** Describes the tactic and operational considerations.

## **9.0.2 How Sensitive Area Protection Is Managed**

The decision to mobilize sensitive area protection is made by the Unified Command in conjunction with the Planning Section Chief. The Environmental Unit Leader, using tracking and surveillance tactics (Section 7), local knowledge, or other sources, identifies and prioritizes the areas to protect. The management of these deployments is under the control of the Operations Section. Sensitive area protection will be directed by a Strike Team Leader who executes specific strategies and tactics to carry out deployments. The Strike Team Leader will report to the Nearshore Task Force Leader.

Appendix B contains action checklists for Unit Leaders, Branch Directors, Section Chiefs, Incident Commander and Command Staff.

### **9.0.2.1 Solomon Gulch Hatchery and Valdez Duck Flats Sensitive Area Protection Mobilization Decision Matrix**

To assist in determining the possible threat to these sensitive areas, a decision matrix was developed. This matrix provides assessment points to be used by the Initial Response Incident Commander (IRIC) or the Incident Command (IC) within the first one or two hours of an incident. Information from on-scene observation reports is assigned a numerical value associated with the threat/risk possibilities. If the cumulative total value reaches or exceeds 25, then immediate and rapid deployment of protective oil spill boom is expected to occur. The matrix is intended for use early enough in the process that the Unified Command may not yet be established. The IRIC may initiate the matrix results.

This matrix was intended to incorporate the most pertinent factors that might occur in an actual spill incident, however, there may be extraordinary conditions which must be taken into consideration. It is the responsibility of the Unified Command/Incident Commander or, if early enough in the response, the IRIC to gather incident specific information so incident objectives and prioritization of tasks can be made that enable responders to execute spill containment, spill recovery/mitigation, and sensitive area protection actions simultaneously.

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## Oil Discharge Prevention and Contingency Plan

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**Table 12-16. Support Vessels**

Type	No.	Crew	Length (FT)	Location	Ownership
Line Boat	2	2	44	VMT	Crowley Marine Services
Support Vessels	6	2	18 to 27	Prince William Sound	APSC
Fishing Vessel (F/V)	Refer to VMT-LP-7				

SERVICE - Open water: Wave height less than 6 foot.

Note: During response operations, APSC support vessels are limited by personnel safety and the limitations of the equipment being deployed.

**Table 12-17. Oil Recovery Equipment - Skimming Vessels Limitations and Operational Characteristics**

No. / Vessel / Length / Speed and Draft	Nameplate Recovery (BBL/HR)	De-Rated Recovery (BBL/HR)	Storage (BBL)
<p><b>1 - Dynamic Inclined Plane Skimmer (JBF 6001): Valdez Star:</b>                      Length (FT): 123                      Speed (KT): 6 to 12                      Draft (FT): 10</p> <p><b>Additional Comments:</b></p> <ul style="list-style-type: none"> <li>Service - Open water skimmer:                             <ul style="list-style-type: none"> <li>Wave height less than 6 foot</li> <li>Winds 15 - 25 knots</li> </ul> </li> <li>Maneuverability is limited while skimming operations are underway</li> <li>Skimming speed around 3 knots, without gated "U" boom</li> <li>Speed towing a barge is 6 knots</li> <li>Safety of skimming operations is reduced when seas exceed 3 ft.</li> <li>Can transfer oil to external storage while skimming</li> </ul> <p><b>Location / Ownership:</b> Port Valdez / PWS Corp.</p>	2,000	700	1,310
<p><b>2 - Dynamic Inclined Plane Skimmers (JBF 3003): Chenega Bay and Tatitlek Star</b>                      Length (FT): 38.5                      Speed (KT): 5                      Draft (FT): 5 ft 7 in.</p> <p><b>Additional Comments:</b></p> <ul style="list-style-type: none"> <li>Service - Protected water skimmer:                             <ul style="list-style-type: none"> <li>Wave height less than 3 foot</li> <li>Winds 15 - 25 knots</li> </ul> </li> <li>Shallow-draft skimmer designed to operate in harbors and nearshore to recover surface oil</li> <li>Self propelled with self-contained hydraulic system</li> </ul> <p><b>Location / Ownership:</b> Port Valdez / PWS Corp.</p>	571	114	95

**Table 12-17. Oil Recovery Equipment - Skimming Vessels Limitations and Operational Characteristics**

No. / Vessel / Length / Speed and Draft	Nameplate Recovery (BBL/HR)	De-Rated Recovery (BBL/HR)	Storage (BBL)
<p><b>1 Belt Skimmer, Marco VII: Fort Liscum</b>                      Length (FT): 48                      Speed (KT): 5                      Draft (FT): 6  <b>Additional Comments:</b></p> <ul style="list-style-type: none"> <li>• Service - Open water skimmer:                             <ul style="list-style-type: none"> <li>• Wave height less than 6 foot</li> <li>• Winds 15 -25 knots</li> </ul> </li> <li>• Shallow-draft skimmer designed to operate in harbors and nearshore to recover surface oil</li> <li>• Self-propelled with 360 degree rotatable propulsion unit.</li> <li>• 3-ft wide filter belt with 6-inch offloading pump</li> </ul> <p><b>Location / Ownership:</b> Port Valdez / PWS Corp.</p>	1,281	256	80

**Table 12-18. Oil Recovery Equipment - Weir Skimmers Limitations and Operational Characteristics**

No. / Skimmer / Weight and Draft	Nameplate Recovery (BBL/HR)	De-Rated Recovery (BBL/HR)	Auxiliary Equipment
<p><b>4 - Skimmer: TransRec 350</b>                      Weight (LBS): 30,800  <b>Additional Comments:</b></p> <ul style="list-style-type: none"> <li>• Service - Open water skimmer:                             <ul style="list-style-type: none"> <li>• Wave height less than 6 foot</li> </ul> </li> <li>• Requires large operating platform</li> <li>• Can be deployed or recovered by one or two personnel</li> <li>• Designed for heavy concentrations of oil</li> </ul> <p><b>Location / Ownership:</b> Skimming-Storage Barges / APSC</p>	2,187	497	<ul style="list-style-type: none"> <li>• Hydraulic Power Pack</li> <li>• Generator</li> <li>• Hoses</li> </ul>
<p><b>1 - Pre-set Weir Skimmer: GrahamRec</b>                      Weight (LBS): 11,800  <b>Additional Comments:</b></p> <ul style="list-style-type: none"> <li>• Service - Open water skimmer:                             <ul style="list-style-type: none"> <li>• Wave height less than 6 foot</li> </ul> </li> <li>• Requires large operating platform</li> <li>• Designed for heavy concentrations of oil</li> </ul> <p><b>Location / Ownership:</b> Skimming-Storage Barges / APSC</p>	3,774	1100 (per hour for 12 hours)	<ul style="list-style-type: none"> <li>• Hydraulic Power Pack</li> <li>• Hose Reel</li> <li>• Hydraulic and Discharge Hoses</li> </ul>
<p><b>1- Self-Adjusting Skimmer: DESMI Mini-Max</b>                      Weight (LBS): 48                      Draft (FT): 1  <b>Additional Comments:</b></p> <ul style="list-style-type: none"> <li>• Service - Calm water skimmer:                             <ul style="list-style-type: none"> <li>• Wave height less than 1 foot</li> </ul> </li> <li>• Ideal for light and medium-viscosity oil</li> <li>• Effective in shallow water environments</li> <li>• Can be deployed from most fishing vessels</li> </ul> <p><b>Location / Ownership:</b> Valdez Area / APSC</p>	220	44	<ul style="list-style-type: none"> <li>• Suction/ Discharge Hose</li> <li>• Suction pump</li> </ul>

**Table 12-18. Oil Recovery Equipment - Weir Skimmers Limitations and Operational Characteristics (Continued)**

No. / Skimmer / Weight and Draft	Nameplate Recovery (BBL/HR)	De-Rated Recovery (BBL/HR)	Auxiliary Equipment
<b>1- Self Adjusting Skimmer: DESMI Terminator</b> Weight (LBS): 330 Draft: (FT): 2.3 <b>Additional Comments:</b> <ul style="list-style-type: none"> <li>Service - Open water skimmer:                             <ul style="list-style-type: none"> <li>Wave height less than 6 foot</li> </ul> </li> <li>Ideal for light and medium-viscosity oil</li> <li>Effective in shallow water environments</li> <li>Can be deployed from most fishing vessels</li> </ul> <b>Location / Ownership:</b> VRC / APSC	628.6	126	<ul style="list-style-type: none"> <li>Hydraulic Power Pack</li> <li>Hydraulic and Discharge Hoses</li> </ul>
<b>5 - Self Adjusting Skimmer: DESMI Termite</b> Weight (LBS): 210 Draft: (FT): 1.2 <b>Additional Comments:</b> <ul style="list-style-type: none"> <li>Service - Calm water skimmer:                             <ul style="list-style-type: none"> <li>Wave height less than 1 foot</li> </ul> </li> <li>Ideal for light and medium-viscosity oil</li> <li>Effective in shallow water environments</li> <li>Can be deployed from most fishing vessels</li> </ul> <b>Location / Ownership:</b> VMT, VRC / APSC	188.6	38	<ul style="list-style-type: none"> <li>Hydraulic Power Pack</li> <li>Hydraulic and Discharge Hoses</li> </ul>
<b>1- Self-Contained Skimmer: Manta Ray</b> Weight (LBS): 6 Draft: (FT): 0 <b>Additional Comments:</b> <ul style="list-style-type: none"> <li>Service - Calm water skimmer:                             <ul style="list-style-type: none"> <li>Wave height less than 1 foot</li> </ul> </li> <li>Thin profile permits use in terrestrial environments</li> </ul> <b>Location / Ownership:</b> VMT, VRC / APSC	171	34	<ul style="list-style-type: none"> <li>Suction Pump</li> </ul>

**Table 12-19. Oil Recovery Equipment - Oleophilic Skimmers Limitations and Operational Characteristics**

No. / Skimmer / Weight and Draft	Nameplate Recovery (BBL/HR)	De-Rated Recovery (BBL/HR)	Auxiliary Equipment
<b>6- Disc Skimmer: Komara Mini</b> Weight (LBS): 115 Draft: (IN): 0.8 <b>Additional Comments:</b> <ul style="list-style-type: none"> <li>Service - Calm water skimmer:                             <ul style="list-style-type: none"> <li>Wave height less than 1 foot</li> </ul> </li> <li>Can be deployed from most fishing vessels</li> </ul> <b>Location / Ownership:</b> VMT/ APSC	70 (Crude Oil) 140 (Diesel)	14 (Crude Oil) 28 (Diesel)	<ul style="list-style-type: none"> <li>Hydraulic Power Pack</li> <li>Pump</li> </ul>

\* The skimmer listed in [Table 12-29](#), Shoreline Unit Contents is included in these totals.

**Table 12-19. Oil Recovery Equipment - Oleophilic Skimmers Limitations and Operational Characteristics (Continued)**

No. / Skimmer / Weight and Draft	Nameplate Recovery (BBL/HR)	De-Rated Recovery (BBL/HR)	Auxiliary Equipment
<p><b>1- Brush Skimmer: Lori Brush System *</b>                      Weight (LBS): 4,400                      Draft: (IN): 12  <b>Additional Comments:</b></p> <ul style="list-style-type: none"> <li>Service - Protected water skimmer:                             <ul style="list-style-type: none"> <li>Wave height less than 3 foot</li> </ul> </li> <li>Designed for shoreline and nearshore environments</li> <li>System (skimmer, pontoon boat, power pack, etc.) is packed in standardized containers to facilitate easy transport</li> <li>Fine bristles used for light oil, coarse bristles used for heavy oil</li> <li>These skimmers are very heavy and will require larger vessels with lifting capabilities</li> <li>Can be deployed from most fishing vessels</li> </ul> <p><b>Location / Ownership:</b> VRC / APSC</p>	120	24	<ul style="list-style-type: none"> <li>Hydraulic Power Pack</li> <li>Pontoon Boat</li> <li>Collection Boom</li> </ul>
<p><b>1- Desmi Helix 160 Skimmer</b>                      Weight (LBS): 396                      Draft: (IN): 16  <b>Additional Comments:</b></p> <ul style="list-style-type: none"> <li>Service - Calm water skimmer:                             <ul style="list-style-type: none"> <li>Wave height less than 1 foot</li> </ul> </li> <li>Can be deployed from most fishing vessels</li> </ul> <p><b>Location / Ownership:</b> Prince William Sound / APSC</p>	132 gpm pump capacity	26 gpm	<ul style="list-style-type: none"> <li>Hydraulic Power Pack</li> <li>Hydraulic and Discharge Hoses</li> </ul>

\* The skimmer listed in Table 12-29, Shoreline Unit Contents is included in these totals.

**Table 12-20. Oil Recovery Equipment - Vacuum Systems**

No. / Vacuum System/ Weight and Dimensions	Nameplate Recovery (BBL/HR)	Auxiliary Equipment
<p><b>1- Shorevac *</b>                      Weight (LBS): 902                      Dimensions: 69 in. x 47 in. x 48 in.  <b>Operational Characteristics and Limitations:</b></p> <ul style="list-style-type: none"> <li>Hand lance can be fitted with different nozzles as dictated by the local environment</li> </ul> <p><b>Location / Ownership:</b> VRC / APSC</p>	Up to 1,195	<ul style="list-style-type: none"> <li>Hand Lance</li> <li>Vacuum Head</li> <li>Storage Drums</li> <li>Trailer</li> <li>Suction and Discharge Hoses</li> </ul>
<p><b>1- Ro-Vac</b>                      Weight (LBS): 1,540                      Dimensions: 78 in. x 58 in. x 74 in.  <b>Operational Characteristics and Limitations:</b></p> <p><b>Location / Ownership:</b> VRC VMT/ APSC</p>	Up to 2,000	<ul style="list-style-type: none"> <li>Hand Lances</li> <li>Vacuum Head</li> <li>Storage Drums</li> <li>Suction and Discharge Hoses</li> </ul>

\* The vacuum system listed in Table 12-29, Shoreline Unit Contents is included in these totals.

**Table 12-21. Boom Inventory and Operating Limits**

Boom Type*/**	Quantity (FT)	Tactically Assigned (FT)	Operating Limits* (Wave Height in FT)
Open Water	10,000	2,500	0-6



**Table 12-21. Boom Inventory and Operating Limits**

Boom Type**/**	Quantity (FT)	Tactically Assigned (FT)	Operating Limits* (Wave Height in FT)
Calm Water	36,650	8,300	0-3
Fire Boom	3,600	2,500	0-3
Snare Boom	9,000	None	N/A (placed on shore)
Sorbent (Sausage) Boom	4,000	None	Calm-water only
Intertidal Boom	4,150	All***	N/A (placed along shore)
Current Buster Systems	4 Units	None	0-6

\*Boom types and operating limits based on ASTM information and the World Catalog of Oil Spill Response Products.

\*\* The Boom listed in table Table 12-29, Shoreline Unit Contents is included in these totals.

\*\*\* 2500 ft of the intertidal boom may be substituted with calm water boom.

**Table 12-22. Boom Anchor Systems**

Anchor Type (LB) *	Quantity
40	30
60	2
100	5
200	5

\*The anchors listed in Table 12-29, Shoreline Unit Contents is included in these totals.

**Table 12-23. Pumps - Nearshore / Shoreline**

Pump Type*	No.	Weight (LB)	Capacity (BBL/HR)	Location	Ownership
Centrifugal 4"	4	3,200	1,107 at 85 psi	VRC	APSC
Centrifugal 6"	2	3,200	2,000 at 85 psi	VRC	APSC

\*The pumps listed in Table 12-29, Shoreline Unit Contents is included in these totals

**Table 12-24. Pumps - Other**

Pump Type*	No.	Weight (LB)	Capacity (BBL/HR)	Location	Ownership
Centrifugal 2"	4	150	17	VRC	APSC
DESMI DOP 250	5*	154	625	VMT, VRC , Skimming/Storage Barges	APSC
Diaphragm Pump 4"	1	570	185 at 125 psi	VRC	APSC
Diaphragm Pump 4"	1	235	371 at 75 psi	VRC	APSC
TK-6	1	187	3,774	Skimming/Storage Barges	APSC

\*Some may be part of skimming systems or off loading systems.

**From:** [Scott, Jason R LT](#)  
**To:** [Tuttle, Amanda](#); [Wood, Sue E](#)  
**Cc:** [Alvarez, Walner W LCDR](#); [Lally, Joseph CDR](#); [Smilie, Jason A LCDR](#)  
**Subject:** Scenario 4 comments  
**Date:** Wednesday, February 15, 2017 9:07:29 AM

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Amanda, Sue,

Here are the comments from the Coast Guard on the Scenario 4 re-write. We have consistently reviewed and largely agreed with your red line changes, volume re-calculation, trajectories, and equipment selection as a baseline for the hypothetical response to the required WCD Scenario. At this point we only have issues with the Sensitive Area Protection Matrix. We are a little confused on the thought process as it went away completely to being back as a job aid, and then quickly amended once again. Bottom Line, we would like to see it in the plan as a tool for the IRIC and initial response team.

1. The first amended matrix you handed out at the last scenario 4 meeting where Mike Day explained it seemed reasonable with a few changes.
2. A score of 12 should be the trigger for deploying the Valdez Duck Flats and the Solomon Gulch Hatchery. The 18 score is inappropriate based on the scenarios that you all presented as examples.
3. We feel there should be an added metric for spills over 10,000 bbls for a score of 4 under the MAGNITUDE OF DISCHARGE section. Even considering the direction of tidal currents and winds, a spill of this magnitude should be treated differently than a 100 bbl spill.
4. Consider adding a metric for seasonality. It is obvious that in Winter, there are no salmon, net pens, and significantly less wildlife in the Duck Flats. With a metric for seasonality, the tool can be utilized for all of the scenarios during all parts of the year which it sounds like will be a large concern during the scenario 5 re-write.

v/r

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(802) 318-1846 [Cell]

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## The Challenge of Measuring Water Currents

The first indication that current measurements are a challenge to obtain is the fact that to deploy and maintain a current meter is anywhere from four to ten times as expensive to do as similar activities to measure water levels. This has important implications for the quality and breadth of current observations and tidal current predictions available today to the Nation's mariners.

This increased expense can be readily appreciated by noting a few sharp contrasts between the behavior of water levels and currents. Water level is relatively the same over a wide area; therefore, water level measurements can be made from the relative convenience of dry land along a nearby shoreline. By contrast, current speed and direction can be very localized, varying greatly over short distances as bottom contours and shoreline configuration alter both the current's speed and direction of flow as well as spinning off eddies. Given these circumstances, if you wish to know the current at a particular location in the bay or channel you must leave the comfort of the shore and accept the expense and endure the effort to place your instrument exactly "there" or perform a parallel measurement to estimate being exactly "there."

Getting "there" illuminates further challenges. One can load the workings of a water level station (tide house, water level sensor, electronics, etcetera, all valued at about \$15,000.) into a large truck and drive to your preferred shoreline location for a few hundred dollars per day. Installation is done mostly from the safety and working convenience of dry land. By contrast, the equipment and deployment of current measuring devices is more expensive and involved. First, the equipment to measure currents (current sensor, electronics and various bottom anchors, cables and floats, etc.) is valued at about \$40,000. Next, your truck will only get you to the ship's dock. You and your equipment need to be out on and in the water and the boat to do that will typically cost several thousand dollars per day.

Staying "there" long enough to obtain a meaningful observation reveals additional challenges. Most of the components of a water level measuring system (tide house, electronics, sensor) are on dry land and thus subject to slow corrosion and weathering. Routine maintenance on such an installation typically occurs once each year. By contrast, all of a current measuring system is typically in salt water and thus subject to both rapid corrosion and fouling by marine growth. Such an installation must routinely be visited at least four times per year for cleaning and inspection. And remember, each visit requires a boat and divers to perform even the simplest inspection.

Some of the foregoing explains why the current observations which we do have are of shorter duration, at fewer locations, and less up-to-date than we have for water levels. In fact, continuous current observations only began a few years ago. Previously, current observations were typically made for only a few days, at most a month, at any location. By contrast, continuous water level observation at many locations go back to the mid 1800s. In addition, most of the current observations were made so long ago that the technology for measurement, though sophisticated at the time, is quite primitive by today's standards.

Moreover, as stated above, currents are strongly influenced by local conditions and can change in dramatic and unknown ways when those local circumstances change. In fact, such changes occur all the time. For example, shipping channels are dredged deeper and wider, or natural processes move sand bars or reshape the bottom. These changes will alter the current strength and direction in unknown ways and tidal current predictions and forecasts based upon older observations are at least questionable and may no longer be valid. The only way to know for sure is to reoccupy the site and make new current observations.

As a result of these challenges, current observations are important for shipping, commercial fishing, recreational boating and the safety of life, property and natural habitats both on the water and on shore. A knowledge of predicted, real-time and short-term forecasted currents is critical to safely docking and undocking ships, maneuvering them in confined waterways (riskyma2.html) and making safe passage through our coastal waterways. With this knowledge commerce and people arrive on schedule. Lack of the knowledge can have serious consequences (/images/tankspil.gif).

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Revised: 10/15/2013

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(http://oceanservice.noaa.gov)  
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protect those areas before oil reaches them according to the predicted oil trajectories for an oil discharge of the volumes established under 18 AAC 75.430 - 18 AAC 75.442; areas identified in the plan must include areas added by the Department as a condition of plan approval.”

### RESPONSE TO COMMENTS

RCAC requested specific information about resources that would be used to simultaneously protect the two environmentally sensitive areas and the leading edge of a large oil spill, but accepts the proposed work group to address these issues, and expressed appreciation for inclusion in the working group.

RCAC also requested that the methodologies developed in this process be available for public review, which ADEC will require. (See Condition No. 6).

Mr. Lakosh expressed concern about Alyeska's ability to respond to a nearshore sensitive area under low wind conditions, due to the potential for hazardous vapors. Please see Issue #3 for a complete discussion about vapor hazards and oil spill response actions.

### BASIS FOR DECISION

The plan holder must be capable of protecting sensitive areas in Port Valdez while simultaneously containing and controlling the further spread of oil in a catastrophic incident. The current plan does not clearly demonstrate this capability and requires further analysis. At the Department's request, Alyeska conducted a demonstration exercise on September 24<sup>th</sup>, 1999 where exclusion booming was deployed at three environmentally sensitive areas near the Terminal. Although many aspects of this demonstration were successful, the Department is concerned that there may not be enough resources available to protect the Valdez Duck Flats and the Solomon Gulch Hatchery in the early hours of an incident when many competing response actions must occur.

The Duck Flats and the Solomon Gulch Hatchery are prioritized for protection in the plan through the use of the Sensitive Area Protection Mobilization Decision Matrix. This matrix was added to the current plan as a result of the 1997 plan review and approval process. The matrix provides criteria and assessment points for use by the initial incident commander within the first one or two hours of a spill. Based upon information received about the spill, immediate and rapid deployment of protective oil spill boom is expected for the Duck Flats and the Solomon Gulch Hatchery. Currently, personnel from SERVS are responsible to conduct this deployment. During the RPS Scenario Drill held on September 1<sup>st</sup> and 2<sup>nd</sup>, the protection of the Solomon Gulch Hatchery and the Duck Flats were given priority according to the criteria of the matrix. However, actions to contain and control free oil were delayed because some of the same limited resources that were needed to protect the Solomon Gulch Hatchery were also needed to protect the Duck Flats. The Response Planning Scenario currently in the plan shows resources being used for deployment at the first and the same resources going to the Duck Flats three hours later.

SOA006149

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Alaska Department of Environmental Conservation  
Division of Spill Prevention and Response  
Industry Preparedness and Pipeline Program

**VALDEZ MARINE TERMINAL OIL DISCHARGE PREVENTION AND  
CONTINGENCY PLAN**

**Findings Document  
and  
Response to Comments**

12/20/96

SOA006200

## FINDINGS DOCUMENT

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each site. The commentor recommended that specific deployment plans, flexible enough to allow for specific conditions occurring during a spill, be developed and field tested for all of the environmentally sensitive sites identified in Port Valdez.

The Department has considered this comment and agrees that it would be worthwhile for the plan holder to devise site specific and season specific deployment strategies (not a full protection plan with pre-deployed equipment) for the priority areas identified in the contingency plan. Since this has already been completed for the Hatchery and the Duck Flats, ten sites remain to be considered. The Department believes it would be reasonable, through tabletop drills and actual exercises to complete this task over the term of the plan approval. As a condition of plan approval, the Department will require the plan holder to provide a schedule for developing the deployment strategies for the remaining 10 areas. The regulatory authority relevant to this requirement are 18 AAC 75.425(e)(1)(F)(I), procedures to stop the discharge at its source and prevent its further spread and 18 AAC 75.425(e)(3)(J), protection of environmentally sensitive areas and areas of public concern.

2. Valdez Duck Flats and Solomon Gulch Hatchery: ADF&G's comment was that agencies and the plan holder jointly define the term "automatic" including the need to predesignate response personnel and the level of spill which would trigger a response.

This issue was identified during the Eastern Lion Spill, where oil sheens reached both the Hatchery and the Duck Flats. ADEC staff recall that there had been an understanding following the Eastern Lion spill that SERVS would maintain an identified crew ready to deploy protection at Solomon Gulch, with dedicated equipment stored on location. Sufficient personnel were to be maintained to perform this function without compromising VMT response efforts. This seemed to be an issue of concern to the Planning Section during the drill. The Department concludes that this issue must be resolved as a condition of plan approval.

3. ATOM Model and Oil Spill Trajectories: Both citizen and agency reviewers have commented on the lack of accuracy of the ATOM model in the near shore environment of Port Valdez. In addition to agency comments, citizen reviewers have noted that "the computer model trajectory example for Port Valdez is incomplete and does not look realistic, based upon local knowledge". Both commentors recommend that the model be further verified and tested.

The Department concurs with these comments and finds that the ATOM model needs to be improved if it is to be a reliable tool to forecast spill trajectories in the area of the Terminal. Until such time that this is accomplished, the Department will require the plan holder to more fully describe the use of other more realistic "procedures and methods for real-time surveillance and tracking of the discharged oil on open water and forecasting of its expected points of

## FINDINGS DOCUMENT

shoreline contact" (18 AAC 75.425 (e)(1)(F)(iv). The ATOM model may continue to be appropriate as a long range forecast tool for large scale oil transport even though its limitations in the nearshore environment, especially nearby the Terminal are acknowledged.

It should be noted that by the next plan renewal, the Department will have amended the Oil and Hazardous Substances Pollution Control Regulations. It is anticipated that the new section on Best Available Technology (BAT) reviews will require that trajectory analyses and forecasts be subject to BAT review. Therefore, the next time the plan is renewed, the Department will evaluate the trajectory model for best available technology based on several criteria, as set in the soon-to-be adopted regulations, including increased environmental benefits and whether the technology is compatible with existing operations.

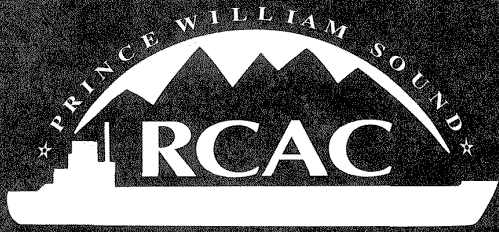
#### 4. May 15, 1996 VMT Drill Lessons Learned:

A commentor stated that the Lessons Learned from the May 15 drill should be completed prior to Plan approval. The Department has considered this comment. Summary comments/assessments and lessons learned have been received from all participants, including Alyeska, and that the primary lessons learned directly relevant to the plan have been addressed in the three issues as described above. Other elements of the lessons learned, such as the issue of most efficient equipment use and equipment breakdowns are considered to be more appropriately dealt with as inspection and compliance matters.

In a separate transmittal to the plan holder, the Department is requiring some updates to the C-plan based on experiences from this drill, such as to modify the response section of the Plan to include the general procedures that will determine when the Valdez Emergency Operations Center is to be the command center for a Terminal incident.

#### **ISSUE #14 TRANSFERS BETWEEN PLAN HOLDERS**

A comment was received which raised the concern that both the shippers, through the Prince William Sound Tanker C-Plans and Alyeska, through the VMT C-Plan, rely on SERVS' equipment inventory to meet their response planning standard. This comment was given consideration in that State regulations specifically address transfers of equipment, materials or personnel between plan holders. In this case, SERVS has the role of the plan holder for the VMT Plan and has the role of an oil spill response action contractor for the Tanker Plans. The regulations under 18 AAC 75.470 (b)(1)(D) give the Department the discretion to approve a transfer between plan holders after consideration of a number of factors, one of which may



Regional Citizens' Advisory Council

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# The Observer

VOLUME 4, No. 3/SUMMER 1994

## Special Report: Follow up on Eastern Lion

### • What happened

On May 21 and 22, approximately 8,400 gallons of North Slope crude spilled into Port Valdez from the Eastern Lion. The tanker was carrying BP oil under charter by Amerada Hess.

### • How it happened

The ship's operator has concluded that the leak was caused by a small hole in the bottom of No. 1 Port Wing Cargo Tank.

### • Human error to blame?

The oil spill might have been prevented, or at least mitigated, if the crew had taken steps to confirm the source of a water leak discovered five days before. When the oil spill occurred, no one on the crew volunteered information about the water leak.

### • Environmental damage

Oil got into the Valdez Duck Flats and the Solomon Gulch Fish Hatchery, but it is not known whether and how much damage was done.

### • Response efforts

Alyeska's Ship Escort/Response Vessel System (SERVS) responded to the oil spill. BP took over the clean up three days later. Most of the oil was contained and recovered, but perhaps as much as 10% escaped.

## Will the real owner of the Eastern Lion please stand up

This is a test. Pick the correct statement:

1. The Eastern Lion is owned by Amerada Hess and Maritime Overseas Corporation
2. The Eastern Lion is owned by Overseas Shipholding
3. The Eastern Lion is owned by Third United Shipping
4. The Eastern Lion is owned by Inter-ocean Management Corporation

Each of these answers came from a reputable source, but the owner of record is a Liberian company, Third United Shipping.

Third United Shipping is a joint venture of Amerada Hess Oil Co. and Overseas Shipholding Group. The latter is the parent company of Maritime Overseas Corp., which operates the Eastern Lion. That may explain why press accounts incorrectly said the tanker is owned 50-50 by Amerada Hess Oil Co. and Maritime Overseas Corporation.

Version #4, citing Inter-ocean Management Corp. was simply in error, although it was repeated several times to RCAC, both verbally and in writing.

Press accounts said the Eastern Lion was a BP charter but that is not the case, either.

The tanker was operated by Maritime Overseas Corp. but actually chartered by Amerada Hess. It picked up cargo owned by BP under an arrangement called a "contract of affreightment." The oil was headed to an Amerada Hess refinery in St. Croix. At its destination the cargo was to be handed over to Amerada Hess.

The lineup of companies involved in some way with the Eastern Lion looks like this:

- Third United Shipping: Vessel owner, a joint venture of Amerada Hess and Overseas Shipholding Group. Third United Shipping owns just the one tanker.

- Maritime Overseas Corporation: Vessel operator, a subsidiary of Overseas Shipholding Group.

- Amerada Hess: Vessel charterer and 50 percent partner in the joint venture company, Third United Shipping, which owns the tanker. Amerada Hess is listed as the guarantor on the tanker's oil spill contingency plan filed with the State of Alaska.

- Overseas Shipholding Group: 50 percent partner in the joint venture company, Third

United Shipping, which owns the tanker.

- BP: Owned the cargo and is designated by contract with the vessel operator to respond if the tanker has an oil spill.

With so many players, it also gets confusing attempting to determine who is responsible for what. Typically, the vessel owner (Third United Shipping) and/or operator (Maritime Overseas Corp.) would be held responsible for the illegal discharge of oil. The owner of the cargo (BP) and the operator (Maritime Overseas Corp.) would be held responsible for costs incurred by the state and any natural resource damages.

On the other hand, the state could go after the guarantor for costs and penalties related to the spill. Amerada Hess is listed as the guarantor on the tanker's oil spill contingency plan. Alyeska and BP, as the entities charged with responding to the oil spill, would be held responsible for the adequacy of the clean up.

Enforcement of penalties against Third United Shipping could be difficult because it is not a U.S. company.

## Skipper fired; answers not satisfactory

The Italian captain of the Eastern Lion who was on duty in the days leading up to the May 21 oil spill has been fired by Maritime Overseas Corporation, according to MOC Executive Vice President George Blake.

At a spill debriefing June 28 in Valdez, Blake said he had just returned from Italy, where he interviewed the captain and senior crew members about a water leak detected five days before the oil spill. The crew apparently assumed the excess water in the wing tank came from a stripping valve and did not take additional steps to confirm their assumption. MOC, which operates the vessel, subsequently found a one-inch hole obstructed from view. That hole was the source of both the water leak and the oil spill. When oil began leaking, the crew did not volunteer information about the water leak.

"He's no longer with us," Blake said of the captain. "He did not give satisfactory answers to our questions."

MOC has examined all its ships that ply the TAPS trade and temporary repairs have been made to pits on two of them, Blake said. MOC has also instructed its crews to verify any water leak and to inform MOC of leaks or other potential problems in the future. Because of the location of the hole in the tank, verifying the source of the water leak would have meant emptying and cleaning the tank and removing a bellmouth.

BP officials said they are satisfied with steps taken by MOC and Amerada Hess, which charters the vessel and co-owns it under a joint venture with MOC's parent

*"This spill was completely preventable. It's unacceptable that the crew didn't divulge information. It hampered the response and put divers at risk."*

— Cmdr. Greg Jones, USCG

The crew's failure to volunteer information about the water leak provoked sharp responses from the Coast Guard and RCAC.

In a June 15 letter to Blake, RCAC said the crew's "failure to divulge essential information when response crews were struggling to locate the spill is totally reprehensible. Not only did they exacerbate the impact of the spill on the pristine waters of Port Valdez, they placed response personnel at grave risk by forcing them to search for the source."

Coast Guard Cmdr. Greg Jones echoed that theme at the June 28 debriefing. "This spill was completely preventable," he said. "It's unacceptable that the crew didn't divulge information. It hampered the response and put divers at risk. If we had known about the leak, we might have just loaded the tanker partially and avoided the spill altogether."

However, RCAC and the Coast Guard both praised MOC for coming forward with the information so quickly once it learned of the water leak and the crew's inaction.

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# Follow up

## State, Coast Guard considering spill penalties

The discovery that the crew of the Eastern Lion withheld information related to the cause of the May 21 oil spill has generated investigations which could result in criminal prosecution and heavy fines.

The Alaska Department of Environmental Conservation (ADEC) has asked the Office of Special Prosecutions to consider criminal charges, according to ADEC Regional Administrator Tom Chapple. The Coast Guard is investigating whether violations, in addition to the discharge of oil, were committed by the tanker crew or the company.

Five days before the ship arrived in Valdez, water leaked through a hole in the bottom of the No. 1 port wing cargo tank, according to Maritime Overseas Corp., operator of the Eastern Lion. The crew assumed the leak was coming from a stripping valve, but did not attempt to verify that assumption and did not inform Maritime Overseas Corp. Nor did the crew volunteer any information when the oil spill was discovered. Maritime Overseas Corp.

*“It’s fair to say that when you have an indication of a preventable incident, it’s not going to be a minor penalty and I think the company is aware of that.”*

— Cdr. Bill Hutmacher, USCG

learned about the water leak in the course of its own investigation and brought it to the attention of the Coast Guard and RCAC on June 8.

Criminal penalties could apply if the spill resulted from criminal negligence, but it

would likely be a criminal misdemeanor – as opposed to a felony – because the spill was less than 10,000 barrels. The law defines criminal negligence as failing to perceive a substantial and unjustifiable risk. The risk must be of a such a nature and degree that the failure to perceive it constitutes a gross deviation from the standard of care that a reasonable person would observe in the situation.

State civil penalties will be decided by the Attorney General’s Office, based on several factors such as costs incurred by the state and natural resource damages, according to Assistant Attorney General Breck Tostevin.

Tostevin said it had not been decided who would be held responsible, but a ship’s operator typically would be held liable for discharging, or causing a discharge of oil. Liability for the state’s costs and natural resource damages would fall to the operator and the owner of the oil, he said.

The Eastern Lion is owned by a Liberian company, Third United Shipping, and time-chartered to Amerada Hess. The cargo was owned by BP and bound for an Amerada Hess refinery in St. Croix.

The U.S. Coast Guard is taking a two-pronged approach to its investigation. Cmdr. Bill Hutmacher said the investigation of the spill and ensuing response would be fairly straightforward. Based on that investigation, his office in Valdez will recommend a civil penalty against Maritime Overseas Corp., as the ship operator.

“Separately, we’re also looking into whether there were other violations that led to the spill – actions by the crew or the company itself,” Hutmacher said. “It appears to have been preventable, if they had verified what the cause of the water leak was. It’s fair to say that when you have an indication of a preventable incident, it’s not going to be a minor penalty and I think the company is aware of that.”

The Eastern Lion spilled approximately 8,000 gallons of North Slope crude into Port Valdez. All but about 800 gallons was contained and recovered.

“I think this will be a big reminder to any tanker operator how important it is to verify what you think a problem is. The worst thing you can do is make an assumption of the cause,” Hutmacher said.

Disciplinary actions available to the Coast Guard are limited because the Eastern Lion is a foreign-flag ship and its crew is not licensed in the U.S.

“If it had been a U.S. flag vessel and we determined negligence or misconduct, then we could consider charging the individuals, but since it’s a foreign license, the only thing we can do is forward the information to the flag state,” Hutmacher said.

Hutmacher said the results of the Coast Guard investigation will be forwarded to the Department of Maritime Affairs, Republic of Liberia, and to the Italian government. The ship carries a Liberian flag and the crew have dual licenses, from Liberia and Italy.

## Alyeska's SERVS: Lessons learned from the Eastern Lion

by James E. McHale, Manager  
Ship Escort/Response Vessel System  
(SERVS)  
Alyeska Pipeline Service Company

When oil was reported coming from the Eastern Lion at 9 p.m. Saturday, May 21, Alyeska’s Ship Escort Response Vessel System (SERVS), with notification to the Unified Command, was on the scene within 15 minutes with a self-propelled skimmer, the Valdez Star. Crews worked through the night as the response ramped up and the size and cause of the spill were assessed.

During the height of the response on Sunday, more than 45 vessels, 14 skimmers and 300 personnel recovered approximately 1,200 barrels of oily liquids from the 200-barrel spill. Some 14,000 feet of boom was deployed, including deflection boom at Solomon Gulch Hatchery and the Valdez Tidal Flats.

By Tuesday, May 24, the Unified Command reported only minor sheens remained in Port Valdez, near the Eastern Lion at Berth 5. Response efforts then focused on cleaning the vessel and the berth and preparing the tanker for its departure on Friday, May 27.

Alyeska’s main objectives for the response were realized, with safety being the number one priority.

- Leakage was stopped by transferring oil within the Eastern Lion.
- Minimal impacts to shoreline or wildlife occurred.
- Response equipment was deployed quickly.
- Personnel performed their duties professionally.
- The transition with BP was smooth, and

caused no operational interruption.

Alyeska has received praise and constructive criticism for its response. We believe there is always room for improvement and this response, although effective, taught us some valuable lessons:

- Skimming operations inside the tanker’s boom allowed oil to escape. Secondary boom placed near the apexes of a tanker’s primary boom will enhance skimming operations and will be in effect September 30.

- Procedures are being written now on skimming inside a tanker’s primary boom to reduce oil entrainment.

- Booming the tidal flats and Solomon Gulch Hatchery will begin sooner. By September 30, Alyeska will pre-stage 6,800 feet of boom at the Container Terminal and additional boom-anchoring buoys at the tidal flats and hatchery will be installed.

- Skiffs dedicated to deploy and tend boom at the tidal flats and the hatchery will be in place by November.

- Mooring of lightering vessels will be reviewed to avoid kicking sheens into Port Valdez.

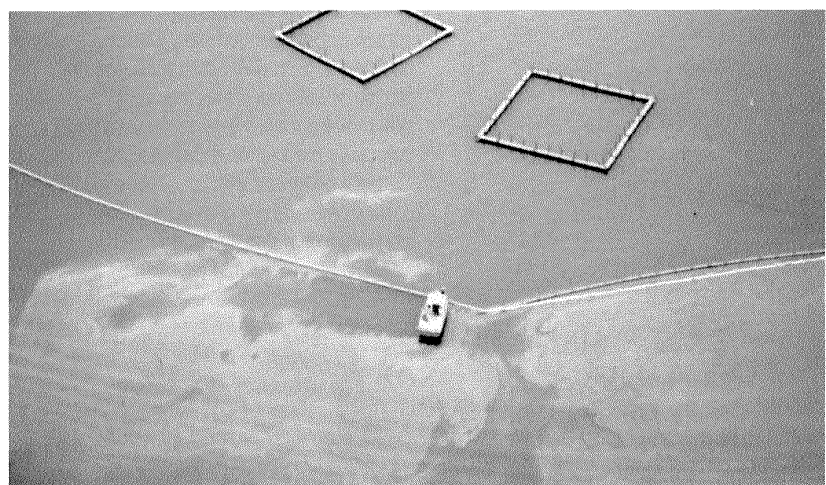
- Use of skimmers close to a tanker will be re-examined.

- Alyeska is considering a new three-level incident response system to enhance communications in the initial stages of an incident.

Alyeska is committed to making these and other improvements. Working with regulators and citizens groups against a common enemy – oil spills of any magnitude – will strengthen Alyeska’s response force, and maintain its reputation as a world-class oil spill prevention and response organization.



Response workers deploy main boom around the Solomon Gulch Hatchery.  
Photo by Tom Sweeney/RCAC



Oil sheen begins to slip under the permanent boom and move toward net pens at the Solomon Gulch Hatchery. The more protective main boom was not in place until after oil reached the net pens. Photo by LeAnn Ferry/RCAC.

# Spill response

## Alyeska responds to comments, outlines follow up

Alyeska's response to the Eastern Lion oil spill has been reviewed and "action plans" are underway to improve some aspects of spill response, reassess certain practices and change others. In a debriefing session June 28, in Valdez, officials from Alyeska and SERVVS, Alyeska's escort and response arm, addressed points raised by RCAC and outlined steps being taken in light of lessons learned from the Eastern Lion spill.

In addition to RCAC, others at the debriefing included representatives of British Petroleum, Marine Overseas Corporation, the U.S. Coast Guard, Alaska Department of Environmental Conservation and Amerada Hess Oil Co.

Alyeska representatives first addressed points made by RCAC in its "advice and comments" on the spill response.

### RCAC advice and comments

- RCAC: The "Transrec" barge should have been used to recover oil at the berth.

Alyeska: The Transrec barge wasn't used at the berth, even though it had been tried in a drill, as they didn't feel it was the right tool for this type of spill because of its size, the quantity and thickness of the oil spilled, and the tidal conditions. However, as part of an action plan, two Transrec barge exercises at the terminal will be scheduled this summer to drill this strategy.

- RCAC: The Nearshore Response Plan was not mobilized and should have been.

Alyeska: The Terminal Response Plan was the operative plan, but elements of the nearshore plan were used: fishing vessels pulled U booms, a Desmi skimmer was employed off the landing craft Krystal Sea, and the hatchery and duck flats protection were deployed consistent with the near shore plan.

- RCAC: Oil leaking from the ship was not contained because the boom was not configured properly and tended, and more

boom should have been deployed.

Alyeska: Boom should be maintained constantly and sometimes it wasn't, but no boom in the world is going to contain 100 percent of the oil. Plans are underway to improve boom performance at the berths.

- RCAC: Alyeska should have responded more aggressively despite early reports that the spill was small. Spills are almost always underestimated at first.

Alyeska: Mobilization was slow because the spill happened on a Saturday night in the dark. SERVVS brought in equipment and people as soon as they were available.

- RCAC: Measures to protect the Solomon Gulch Hatchery and the Valdez Duck Flats should have been taken much sooner.

Alyeska: Agreed.

- RCAC: Oil escaped in part because boom was not configured properly.

Alyeska: Concluded after some study that generally booms had been placed at their optimum positions. However, these positions will be reassessed.

- RCAC: Although it's boring work, boom must be tended to ensure effectiveness.

Alyeska: Boom tending is crucial. SERVVS is planning more training and supervisors will make a greater effort to check booms in a response.

- RCAC: Permit applications to go ashore were not submitted until Monday, even though it was known Sunday that shorelines might be impacted.

Alyeska: Verbal permission from most of the landowners was obtained Sunday; the written applications had to wait until state offices opened for business. Responders could have gone ashore Sunday with the verbal permission.

### Action Plans

Alyeska and SERVVS representatives outlined action plans now in progress:

- Better booming and skimming at the



Oil escapes from containment boom around the leaking Eastern Lion, as skimmers work to pick up oil inside the boom. Photo by LeAnn Ferry/RCAC.

terminal – SERVVS is identifying ways to improve the system by trying different types of equipment and techniques. The plan includes exercises using the larger "Transrec" skimmers and development of a tactical guide for berth oil spill response.

- Protection of the duck flats and container dock – Protective measures and techniques are being reassessed. Boom and other equipment will be pre-staged at the tide flats. SERVVS will identify anchor points and anchor systems. SERVVS plans to develop new deployment plans for both areas. There will now be a strong commitment to protect the container dock and the duck flats in a spill in Port Valdez.

- Solomon Gulch Hatchery Protection – SERVVS plans to improve boom configuration, construct beach sealing and anchor points, place additional buoys offshore, add skiffs for boom deployment and tending in

shallow water, and commit to hatchery protection as a priority.

- Additional vessels – SERVVS has requested funding for several work boats and jet skiffs for use in Port Valdez spills, particularly at the duck flats and hatchery.

- Incident identification – A plan is being developed to "...position ourselves to get ahead of the curve," by categorizing spills and other incidents according to the level of emergency. A corresponding notification process and response scenario apply to each level of spill or incident. The preliminary plan calls for spills or incidents to be categorized as "green" (routine upset, fully contained, no threat; short list notification); "yellow" (unexpected, potential for physical or perceptual escalation; prepare for situation to get worse); and "red" (physically or perceptually out of control, local resources insufficient; full blown callout and response).

## RCAC recommends more aggressive spill response

Some of the oil that escaped into Port Valdez from the Eastern Lion could have been contained if Alyeska had responded more aggressively to what was thought to be a small spill. That was among the observations, advice and recommendations passed on to Alyeska by the RCAC in the wake of the Eastern Lion incident.

In a June 3 letter and report to Alyeska President David Pritchard, RCAC commented on the response to the May 21 spill and offered suggestions for improvement. Monitoring oil spills is a core responsibility of RCAC under both its contract with Alyeska and its federal mandate as the citizens' advisory group for Prince William Sound.

"An overriding theme of the Eastern Lion response was underestimation. RCAC strongly recommends that Alyeska be more proactive in its response rather than reactive. It is better to overestimate the size of a spill than to underestimate..." RCAC said.

The spill was initially thought to be about 50 gallons and the response effort reflected that assumption. If more equipment had

been mobilized early, less oil would have escaped initial booming and skimming, according to RCAC.

In the same vein, the report said, sensitive areas would have been better protected from escaping oil if Alyeska had mobilized the resources and equipment described in its Nearshore Response Plan and Hatchery Protection Plan.

RCAC said response efforts to protect the Solomon Gulch Hatchery should have been mobilized immediately. Oil got into the net pens at the hatchery because the main boom was not placed until after oil had reached the net pens. RCAC reiterated its previous recommendation that the hatchery be boomed automatically whenever oil is spilled in Port Valdez.

RCAC said more boom should have been deployed around the ship and boom should be tended constantly to ensure proper configuration and prevent oil from escaping. Sections of the boom at the hatchery ended up almost perpendicular to the currents, allowing oil to escape underneath. Containment boom around the tanker was observed flat against the hull of the ship.

*"An overriding theme of the Eastern Lion response was underestimation. . . It is better to overestimate the size of a spill than to underestimate . . ."*

– RCAC

RCAC also noted what went right in the spill response.

"While there were many areas that we feel can be improved upon, RCAC also recognizes the fact that if it were not for the efforts of many people involved, the Eastern Lion spill could have been much worse than it was," the letter said.

RCAC complimented the fishing vessels for fast and professional response and praised Alyeska's Ship Escort and Response Vessel System (SERVVS) for its quick response. SERVVS Nearshore Supervisor Steve Hood was singled out in particular, for recognizing the danger to the hatchery and mobilizing protective measures to minimize further oiling.

RCAC also gave high marks for BP's quick and decisive response; the availability of cleanup supplies and smooth functioning of most equipment; the conservative approach taken in reporting quantities of oil and water recovered; and the timely notification of state and federal regulatory agencies. With only minor exceptions, officials at Alyeska and BP cooperated with RCAC and helped observers gain access when needed.

RCAC's report on the spill response was prepared by contractor Tim Jones, RCAC's drill and spill monitor, in consultation with others on the RCAC response team.



**Eastern Lion Oil Spill**

**May 21, 1994**

**Preliminary Report  
prepared for  
Regional Citizens' Advisory Council  
Oil Spill Prevention and Response Committee  
by**

**Tim Jones  
May 31, 1994**

## ITEMS OF VALUE TO FUTURE RESPONSES

**TRAJECTORY TIMING:** *Note* : All of the movement mentioned below occurred in calm winds with light afternoon sea breezes. Times could expect to be shortened depending on the strength and direction of the wind.

**HATCHERY PROTECTION:** Oil was reported at Allison Point at 1400, 17 hours after the first report of the spill.

It was reported at the net pens at 1511, 18 hours, 11 minutes after the initial report. This occurred over a period of calm winds. Until 1400 oil had not been reported east of Berth 1.

The spill occurred on a flood tide with a general easterly set toward the hatchery for approximately 2 hours. At around 2300 high tide the current went slack then changed to a westerly set carrying oil to the west away from the hatchery. The tide changed again at 0544 and the flood ran until 1159. However currents at Allison Point and east continued westerly until close to 1500.

At the time of the low tide the oil had not passed Berth 3.

**Potentials:** If the spill had occurred at the beginning of the flood, oil conceivably could have reached the hatchery in as little as three hours.

Also oil can move from Allison Point to the hatchery in one hour just on currents with no wind.

### VALDEZ DUCK FLATS PROTECTION.

Oil was observed approaching the Duck Flats on the tide rip at 0538 Monday with some oil in the intertidal area. This was 33 hours after the spill was reported. Again this was with the first nine hours of the spill carrying the oil away. This followed six tide cycles with the flood just beginning. Also, the set of the

**Tuttle, Amanda**

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**Subject:** Scenario 4 Walkthrough #4  
**Location:** VEOC x5151

**Start:** Monday, January 23, 2017 1:30 PM  
**End:** Monday, January 23, 2017 3:30 PM  
**Show Time As:** Tentative

**Recurrence:** (none)

**Meeting Status:** Not yet responded

**Organizer:** Tuttle, Amanda  
**Required Attendees:** Robertson, Roy; Robida, Jeremy; Scott, Jason; Alvarez, Walner LCDR; Woodgate, Melissa M (DEC); Carey, Anna M (DEC); Lapella, Pete V (DEC); Wood, Sue E.; Roach, William; Brewi, Melany; Sweet, Alyssa; Hicks, Scott A.; Parsons, Martin; Day, Mike W.; Hoffman, Betty; Swiss, Linda; Doyel, Ron L (DEC); Friedman, Bonnie; Love, Austin; MSU Valdez CDO USCG; Riutta, Aaron LT; CDR Joseph Lally

**Attachments:** [EXTERNAL]: (Forward to others) WebEx meeting invitation: Scenario 4.msg

VMT Coordination Group,

We would like to expand the participation of the our next meeting on the 23<sup>rd</sup> of January to the entire VMT Coordination Group. Several items that we would like to discuss involve those who are not in the Scenario 4 Sub-group. We would like to focus our time on discussing the following three items:

- Differences in Trajectories of GNOME and OilMap,
- Free Water Recovery, and
- SAP Decision Matrix.

Since our last meeting we have been working with a 3<sup>rd</sup> party sub-contractor to explain the variances in the two trajectory models and their respective algorithms. During our meeting we will be hosting a presentation to answer some of these questions.

Additionally this week please be expecting a draft recovery calculation table including the free water recovered volumes and a draft Decision Matrix.

You will notice that I scheduled the WebEx to start at 1:15 however the meeting does not start until 1:30. I would like to ask that if you are going to be logging into WebEx to please do so 10-15 minutes before hand in case there are any technical issues.

We look forward to sharing our progress next week.

Sincerely,

Amanda and Sue

<<[EXTERNAL]: (Forward to others) WebEx meeting invitation: Scenario 4>>

**Join by phone**

Join by phone

Audio Connection 5151 (Internal within APSC)

(907) 787-5151 (Anchorage)

(907) 450-5151 (Fairbanks)

(907) 834-5151 (Valdez)

(888)878-7577 (Toll-Free)

Participant Access Code:262 396 09

**Doyel, Ron L (DEC)**

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**From:** Doyel, Ron L (DEC)  
**Sent:** Tuesday, February 14, 2017 2:46 PM  
**To:** Parsons, Martin  
**Cc:** Merrell, Geoff T (DEC); Carey, Anna M (DEC); Tuttle, Amanda  
**Subject:** VMT SAP Matrix, proposed changes

Martin, in response to your request for the regulatory authority related to the Duck Flats and Hatchery Matrix,

The SAP matrix is integrated into the currently approved plan as a step in the initial part of a response to quickly evaluate the need to deploy resources to nearby sensitive areas. The matrix was added to the plan because it was recognized that during the response to the Eastern Lion spill (tanker at the terminal), sheen was seen at both the Hatchery and the Duck Flats shortly after the spill. The purpose of the matrix is to ensure that the Hatchery and Duck Flats are evaluated early on in a response because these sites can be quickly impacted and the decision to deploy may be made before the unified command could be stood up. It is important to include the unified command in changes to the matrix because the decision to deploy the Hatchery and the Duck Flats will affect the response as a whole.

The original development and adoption of the matrix was accomplished through the VMT Work Group and has been a part of the VMT response plan through several iterations. Changing the way the information in the matrix is captured in the plan was discussed in the work group process, including the possibility of removing the actual matrix from the plan during meetings this summer. On Jan 20<sup>th</sup> a draft of the matrix was provided for review. The proposed matrix is similar to the current matrix, but was proposed to function as a job aid that would be referenced to in the plan. However, no additional information on what would be captured in the plan concerning evaluation of the Duck Flats and Hatchery has been seen. The original matrix was not perfect, however, at this point I will need to see a more robust justification for the proposed action.

Regulations related to the matrix:

The Duck flats and Hatchery matrix has been utilized as a way to make sure that the sensitive areas (duck flats and hatchery) are identified to be “given priority attention” as called out in 18 AAC 75.425(e)(3)(J)(iii) and to ensure that the decision making process of weather to deploy them is made in a timely manner (18 AAC 75.445(d)(4)).

AS 46.04.030(e) states that the Department “...may attach reasonable terms and conditions to its approval or modification of a contingency plan that the department determines are necessary to ensure that the applicant for a contingency plan has access to sufficient resources to protect environmentally sensitive areas....”

18 AAC 75.445(d)(4) states that “sufficient oil discharge response equipment, personnel, and other resources are maintained and available for the specific purpose of preventing discharged oil from entering and environmentally sensitive area or an area of public concern that would likely be impacted if a discharge occurs, and that this equipment and personnel will be deployed and maintained on a time schedule that will protect those areas before oil reaches them according to the predicted trajectories for an oil discharge of the volumes established under (RPS regs); areas identified in the plan must include

areas added by the department as a condition of plan approval.

Ron

Ron Doyel  
Prince William Sound Unit Supervisor  
Prevention, Preparedness, and Response Program  
Alaska Department of Environmental Conservation  
[Ron.doyel@alaska.gov](mailto:Ron.doyel@alaska.gov)  
Phone: 835-8012  
Mobil: 419-0001  
Fax: 835-2429



**From:** [Lapella, Pete V \(DEC\)](#)  
**To:** [Dovel, Ron L \(DEC\)](#)  
**Cc:** [Woodgate, Melissa M \(DEC\)](#); [Carey, Anna M \(DEC\)](#)  
**Subject:** FW: SAP Mobilization Decision Matrix  
**Date:** Thursday, June 30, 2016 11:27:22 AM  
**Attachments:** [Draft SAP Mobilization Decition Matrix.xlsx](#)

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FYI, Pete

*Pete La Pella  
Environmental Program Specialist III  
Alaska Department of Environmental Conservation  
SPR - Spill Prevention & Response  
Prince William Sound Unit  
P.O. Box 1709  
Valdez, Alaska, 99686  
907.835.1470 Office  
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**From:** Wood, Sue E. [mailto:Sue.Wood@alyeska-pipeline.com]  
**Sent:** Wednesday, June 29, 2016 5:52 PM  
**To:** Lapella, Pete V (DEC) <pete.lapella@alaska.gov>; Robida, Jeremy <jeremy.robida@pwsrccac.org>; Woodgate, Melissa M (DEC) <melissa.woodgate@alaska.gov>; Swiss, Linda <swiss@pwsrccac.org>; Scott, Jason <Jason.R.Scott@uscg.mil>; Parsons, Martin <Martin.Parsons@alyeska-pipeline.com>; Tuttle, Amanda <Amanda.Tuttle@alyeska-pipeline.com>; Gilson, Dan <Dan.Gilson@alyeska-pipeline.com>; Johns, Steven <Steven.Johns@alyeska-pipeline.com>  
**Subject:** SAP Mobilization Decision Matrix

A RECAP OF THE VMT SUB-GROUP DISCUSSION ON JUNE 28 CONCERNING THE SAP MOBILIZATION DECISION MATRIX

Sue, Amanda, Steve and Dan from Alyeska met previously to review and prepare some recommended improvements to the form. In its current state, the form is confusing to use, counts visibility twice, and almost always requires deployment (scores 25 or higher) even when the spill amount is small and the wind and wave conditions are favorable. We attempted to modify the form to make it more representative of decisions likely to be made by the IRIC or UC during a real response. The proposed edits provide more consideration for the lower concerning parameters, like having calm water, low wind velocity, and wind direction from the North or East that would push oil away from the Hatchery and Duck Flats.

Some of the proposed changes are:

- More specificity on wind velocity, wave height, magnitude, source, and containment.
- Higher scores for certain levels of wind velocities and wave heights.
- Replace Deployment Impacts (low tide, shore ice, visibility) with Tide (ebb or flood).
- Delete current velocity (not observable/keep to known variables).
- Delete visibility (not sure this is important for the decision to deploy or not).

required, and the review began on August 20, 2002. Alyeska's Government Letter No. 02-18949, dated August 13, 2002, notified the Department that Laurie Hull-Engles assumed responsibility for administering the VMT C-Plan on July 1, 2002.

Condition 2(b): C-Plan Management Meetings.

*Within 30 days of plan approval action the Designated Representative will meet the representatives of the Department, and continue to meet thereafter on a monthly basis. The purpose of these meetings will be to discuss the following topics: assurance of compliance with the conditions of approval; coordination of drills, inspections, training or other activities related to the contingency plan; updating best available technology or other requirements which may apply to the Facility at the time of the next renewal application; introduction of plan amendments as necessary; identifying and resolving issues that may affect expeditious submission, review, and approval of renewal application. By the 15<sup>th</sup> of each month, the Designated Representative will submit to the Department a monthly summary status update on conditions.*

Status: Complete to date and ongoing.

Condition 2(c): Department's discretion to see consultation/inform stakeholders.

*The Department, at its discretion, may seek advisory input or consultation with subject matter experts or other stakeholders regarding spill response and contingency planning issues. The Department, at its discretion, will inform stakeholders of significant items to be addressed by the plan holder prior to submission of an application for renewal as a means to facilitate expeditious review.*

Status: Unchanged. No action required at this time.

Condition 3(a): Scenarios.

*During the current plan approval period, the plan holder will participate in a scenario workgroup. The workgroup will be co-chaired by ADEC and the plan holder. The objective of the workgroup will be to improve the response planning scenarios to clearly demonstrate that strategies and procedures are in place to conduct and maintain an effective response and are usable as a general guide for a discharge of any size. Draft scenarios are due in written form to the Department by April 1, 2001. Final scenarios are due in written form to the Department by April 1, 2002. Final scenarios will be incorporated into the July 8, 2002 plan renewal application and will be approved as part of the April 2003 plan renewal.*

Status: Complete to date and ongoing. Final scenarios were submitted to the Department on 4/1/02. The final scenarios are included in the July 3, 2002 VMT C-Plan submitted for public review. Public review is required by this Condition.

Condition 4(a): Multi-year Exercise Schedule.

*Within 60 days of plan approval the plan holder will provide the Department a multi-year field exercise schedule. These exercises will be carried out through the term of the plan approval and will:*

1. *exercise all scenarios in the plan up to and including the RPS scenarios;*

## FINDINGS DOCUMENT

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The Department is concerned that during a real incident, the delay in the mobilization of the free oil task forces could potentially result in loss of opportunities to timely control or contain the further spread of oil. Although the protection of the Duck Flats and the Solomon Guich Hatchery remain a priority, the Department would like to further explore with the plan holder the most strategic use of resources. The Department would like to ensure that: (1) sensitive areas closest to the Terminal are protected and (2) the leading edge of the spill is controlled as early as possible to prevent additional sensitive areas threats. Alyeska has agreed to improve methodologies (including possible pre-deployment of equipment) to be able to more quickly protect these sensitive areas.

Fishing vessel fleet training has been adequately addressed by the text added in Alyeska's January 23, 2000 submittal of additional information, Part 3, SID 2, Section 5.9.3. Please also refer to Issue #4, Oil Spill Response Training.

### ISSUE #3: RESPONSE STRATEGIES

#### STATEMENT OF ISSUE

Has the plan holder provided a description of the actions to be taken to contain and control the spilled oil?

Are the strategies sufficient to meet the applicable response planning standard?

#### FINDINGS

The Department finds that the plan holder has provided adequate description of the actions to be taken to contain and control spilled oil. The strategies presented are sufficient to meet the applicable response planning standard.

The Department supports Alyeska's initiative to develop a tactical guide for on land containment and control strategies, as set out in Alyeska's revised text of Part 2, Section 2.7.5 in their January 23, 2000 submittal. This guide will be the product of a joint Alyeska, RCAC, JPO and ADEC work group that will commence the initial scoping and participate in the guide development. Although Alyeska states that only Part 1 of the guide will be a SID to the contingency plan, the Department requires that Part 2 also be a SID as it contains supplemental information required under 18 AAC 75.425(e)(3). Submission of Part 2 and a schedule for the tactical guide completion will be a condition of plan approval. Please refer to Condition No. 5.

#### REGULATORY AUTHORITY

The regulations under 18 AAC 75.425(e)(1)(F) Response Strategies require:

SOA 008236

Alaska as a whole. The Solomon Gulch Hatchery and Valdez Duck Flats remain high priorities for protection in the Port of Valdez. Tactics specific to the Valdez Duck Flats and the Solomon Gulch Hatchery remain in the plan, and the response timeframes and capability to deploy these tactics have not changed in this amendment. Equipment remains staged to deploy these specific sensitive areas. The Solomon Gulch Hatchery and Valdez Duck Flats remain the only sensitive areas in the port with equipment specifically designated to deploy them. Volume 3 Section 9.6 still commits APSC to installing permanent boom whenever fish fry are in the fish pens.

PWSRCAC was concerned about the overall reduction in response resources for sensitive area protection in the Scenario 4 updates. The department has reviewed the updates to the scenario and finds overall appropriate resources are deployed for sensitive area protection. The updates to Scenario 4 are sufficient for this review, but the department will continue to exercise sensitive area protection and evaluate equipment needs and prioritization strategies.

**Issue #6 Update of the Solomon Gulch Hatchery and Valdez Duck Flats Sensitive Area Protection Mobilization Decision Matrix**

Statement of Issue:

Ensure that the Matrix will be a useful tool in assisting initial decisions regarding sensitive area protection specific to the Duck Flat and Solomon Gulch Hatchery.

Regulatory Authority

18 AAC 75.425(e)(3)(J)(iii) requires “identification of which areas will be given priority attention if a discharge occurs.”

Finding

The Sensitive Area Prioritization Matrix in the plan is used as a way to make sure that some of the sensitive areas that may be affected in a spill, the Valdez Duck Flats and Solomon Gulch Hatchery, are identified to be “given priority attention” as required under 18 AAC 425(e)(3)(J)(iii). The intent of the Matrix is to incorporate the most relevant factors in an actual incident, and to assist in the initial decision-making process of whether to deploy the Valdez Duck Flats and Solomon Gulch Hatchery and to confirm this decision is made in a timely manner. However, as explained in Section 9.0.2.1 of Volume 3, exigent conditions must be taken into consideration so that responders are able to ensure that the spill containment recovery and sensitive protection can occur concurrently, based on incident specific objectives and prioritization.

The VMT plan identifies multiple sensitive areas in Port Valdez that should be given priority attention, and the Matrix is an additional step to ensure the Valdez Duck Flats and the Solomon Gulch Hatchery are evaluated for deployment in a timely manner.

Comments were received from PWSRCAC expressing concern for changes to the Matrix with the removal of wave height, visibility, and current direction. The previous Matrix was more complex and required the initial on-scene incident commander to evaluate conditions that were challenging to capture correctly and quickly. It was identified that the Matrix was not assisting in the prioritization of all sensitive areas in Port Valdez and was being used ineffectively in making initial decisions.

SOA 008411

With the previous Matrix, in exercises, resources were mandated to deployment of the Valdez Duck Flats and Solomon Gulch Hatchery when the resources would have been more appropriately deployed to other sensitive areas in Port Valdez. The updated Matrix has been modified to include the most influential initial inputs for decision-making early in a response before a Unified Command, Operations Section, and Environmental Unit can be stood up.

The department finds the updated Matrix does not change the commitment to evaluate and deploy the Valdez Duck Flats and Solomon Gulch Hatchery within the same timeframes. The department will continue to assess this updated tool in exercises to ensure its usefulness in appropriately prioritizing response actions.

**Issue #7      Decant Plans and Retention Time**

Statement of Issue:

Ensure retention times listed in the plan follow the vessel specific Load and Decant plans.

Regulatory Authority

18 AAC 75.425(e)(1)(F) requires the VMT plan to have the following:

- (ix) procedures for transfer and storage of recovered oil and oily water, including methods for estimating the amount of recovered oil;
  
- (x) procedures and locations for temporary storage and ultimate disposal of oil contaminated materials, oily wastes, and sanitary and solid wastes, including procedures for obtaining any required permits or authorizations for temporary storage or ultimate disposal.

Finding

As a waste management option the VMT plan has the equipment to decant water from recovered oil storage barges through a permit process as outlined in Section 11.3.2.1. The minimum suggested retention time was changed as part of this amendment, and during the RFAI process APSC explained that this retention time is per the barge specific Load and Decant plans. The department finds it appropriate to use the barge specific Load and Decant plan retention times as a starting place for decanting plans that would be produced specific to an incident. Prior to any decanting an incident specific decanting plan would be produced and approved through the permitting process.

Comments were received from PWSRCAC identifying concerns and confusion about the load and decant plans. These Load and Decant plans are produced specifically for each barge and are available for the barges that are currently listed in the plan. This amendment is specific to the barges currently in the system. These Load and Decant plans are the same plans for the SERVS response barges that were reviewed as part of the 2017 PWS Tanker plan renewal.

**Issue #8      Condition of Approval No. 5: Nonmechanical Response Monitoring and the Use of Dispersants**

Statement of Issue:

SOA 008412

Solomon Gulch Hatchery and Valdez Duck Flats sensitive area protection mobilization decision matrix

Factors (select one per row)						Sub Totals	Scenario 2 (50 bbls to water)	Scenario 3 (1200 bbls to land)	Alternate Scenario (1 bbl to water)	Alternate Scenario (1 bbl to water)	Alternate Scenario (13 bbls to water)	
Wind Velocity (now)	40 knots	20 knots	0-10 knots				10 knot wind	20 mph wind	40 knot wind	25 knot wind	30 knot wind	
	3	2	1				1	2	3	3	2.5	
Wind Velocity (proposed)	30+ knots	15-29 knots	1-14 knots	0 knots			10 knot wind	20 mph wind	40 knot wind	25 knot wind	30 knot wind	
	3	2	1	0			1	2	3	2	3	
Wind Direction (now)	From West	From South	From East	From North			North East	North East	North West	West	South	
	4	4	1	1			1	1	4	4	4	
Wind Direction (proposed)	From West	From South	From East	From North			North East	North East	North West	West	South	
	3	3	0	0			0	0	3	3	3	
Wave Height (now)	4 ft.	2 ft.	Calm				1-2 feet waves	3-5 feet waves	4 feet waves	3 feet waves	3 feet waves	
	3	2	1				2	3	3	3	3	
Wave Height (proposed)	3+ ft.	1-2 ft.	Calm				1-2 feet waves	3-5 feet waves	4 feet waves	3 feet waves	3 feet waves	
	3	2	0				2	3	3	3	3	
Current Velocity (now)	> 2 knots	1 - 2 knots	0 - 1 knots				.25 knot current	.75 knot current	.75 knot current	1 knot current	3 knot current	
	3	2	1				1	1	1	1	3	
Current Velocity (Propose deletion)	>2 knots	1-2 knots	0-1 knots	Suggest deletion of Velocity and use of wind & tide stages to account for this.								
	3	2	1					0	0	0	0	
Visibility (now)	Low	Good					Poor visibility	Visibility 1-2 NM	Poor visibility	Good visibility	Poor visibility	
	2	1					2	1	2	1	2	
Visibility (Propose deletion)	Low	Good	Not sure how visibility impacts oil getting to these areas or the ensuing response actions. Suggest deletion.									
	2	1					0	0	0	0	0	
Magnitude (now)	Unknown Quantity	10-35 bbls	High Rate of Release	2-9 bbls	< 2 bbls	< 0.5 bbls						
	10	10	10	5	3	1		50 bbls	1200 bbls	1 barrel	1 barrel	13 bbls
Magnitude (proposed)	36+ bbls	16-35 bbls	1-15 bbls	<1 bbls								
	10	7	3	0				50 bbls	1200 bbls	1 barrel	1 barrel	13 bbls
Source (now)	Unsecured	Unknown	Secured									
	10	10	1					Loading arm clamp to ship's manifold	Puncture of "A" header pipe at ETF	secured	secured	unsecured
Source (proposed)	Unsecured	Unknown	Secured	(Unknown = Unsecured)								
	10	10	0					0	0	0	0	10
Containment (now)	Uncontained	Unknown	Contained									
	10	10	5					Contained with some oil escaping to west	Contained within Settlement Ponds	Uncontained	Uncontained	Uncontained
Containment (proposed)	Uncontained	Mostly Contained	Contained									
	10	5	0					10	5	10	10	10
Deployment Impacts (now)	Low Tide	Shore Ice	Low Visibility	Good Visibility	(visibility is counted twice in current matrix)							
	2	2	2	1				Poor Visibility	Good Visibility	Poor Visibility	Good Visibility	Poor
Tide (new-replaces Deployment Impacts)	Flood	Ebb										
	2	0						Flood tide	Ebb tide	Flood	Flood	Flood
<b>Total</b>							OLD	<b>29</b>	<b>24</b>	<b>28</b>	<b>26</b>	<b>46.5</b>
							NEW	<b>25</b>	<b>15</b>	<b>21</b>	<b>20</b>	<b>24</b>

SOA 008416



THE STATE  
of **ALASKA**

GOVERNOR SEAN PARNELL

304.60 VMT EXE  
Department of Environmental  
Conservation  
2013.12.13 Scenario 4  
DIVISION OF SPILL PREVENTION & RESPONSE  
INDUSTRY PREPAREDNESS PROGRAM  
JPO/FR/PI Section

411 W. 4<sup>th</sup> Avenue  
Anchorage, AK 99501  
Main: 907.269.6403  
Fax: 907.269.6880

February 5, 2014

File No 304.60

Joseph P. Robertson  
Regulatory Affairs Director  
Alyeska Pipeline Service Company  
P.O. Box 196660  
Anchorage, AK 99519-6660

Subject: **Valdez Marine Terminal Oil Discharge Prevention and Contingency Plan,  
ADEC Plan Number 08-CP-4079. Scenario 4 Exercise, June 12 – 13, 2013.**

Dear Mr. Robertson:

On June 12, 2013, the Alaska Department of Environmental Conservation (department) evaluated the Alyeska Pipeline Service Company (Alyeska) and US Coast Guard led Area Exercise that consisted of the Incident Management Team (IMT) portion of the response to the Valdez Marine Terminal (VMT) Oil Discharge Prevention and Contingency Plan (plan), Scenario 4. A separate limited equipment deployment based on the same scenario was exercised on June 13, 2013.

Alyeska and the US Coast Guard have determined that the exercise was successful with a number of recommendations and best practices identified. The department participated in the overall debriefing and evaluation process, and we concur with many of the findings and we agree that most of the objectives of the exercise were met. A dual purpose of the exercise was to demonstrate Alyeska's ability to meet response commitments per 18 AAC 75.485 for the VMT plan. With the regulatory requirements for exercises in mind, the department offers the following observations and recommendations, many of which were discussed during and after the exercise:

1. **IRIC/IIC/IC:** The command structure in the Terminal Emergency Operations Center (TEOC) was not clear. The Initial Response Incident Commander (IRIC) and oncoming Initial Incident Commander (IIC) did not clearly demonstrate the change of command.

The department recommends Alyeska review the intent of the IRIC, IIC, and IC positions and:

- a. Clarify the intent of these positions and their response duties in the VMT plan and in response personnel training.
- b. Improve visual documentation of the response organization in the TEOC as the response develops.
- c. Clearly verbalize that transfer of command has occurred.
- d. Establish and use Incident Command System (ICS) terminology uniformly for response positions as much as possible to reduce confusion.

SOA 009352

2. **VMT Plan:** During the exercise, department evaluators observed confusion over the use of the Unified Plan, the Prince William Sound (PWS) Subarea Contingency plan, the tanker plan, and the VMT plan for various operational and planning actions, on multiple occasions. For example: in lieu of using detailed VMT specific information, much of the sensitive area protection planning was based on the Geographical Response Strategies (GRS). The GRSs do not reflect the level of information and resources found in the VMT plan, nor do they reflect all of the areas identified by the VMT plan and its associated Sensitive Area Tactical Guide. A spill originating from the VMT should rely on the currently approved VMT plan to guide the response.

One stated goal of the VMT plan renewal process has been to modify the plan in a manner which reduces confusion over which plan or plans to use as a guide during a response. In addition to plan renewal efforts, the department recommends that responders are specifically trained in the use of the VMT plan to guide a response to an oil spill originating from the VMT. In order to ensure credit in future exercises for the VMT plan, it is critical that the VMT plan is exercised accordingly.

3. **Exercise Artificiality:** During the exercise multiple instances of unrealistic response practices and assumptions were observed. Examples include:
  - a. During the lunch break on June 12, 2013, one staff person was left to manage the Operations Section. Spill response management continues through meal times and personnel management should ensure adequate manning while breaks are given.
  - b. Some resources were moved or noted as performing faster than is realistic. For example, the operations board stated OWTF 5 was skimming by 0630. This timing does not appear to be realistic given the June 13, 2013, deployment when it took over two hours for OWTF 5 (*Valdez Star/Allison Creek*) to start skimming under ideal conditions and with response resources at the ready.

It is recommended Alyeska implement strong exercise development and planning guidelines to ensure more realistic staffing levels, ensure exercise controllers are trained to correct unrealistic response approaches, and minimize exercise artificiality as much as possible.

4. **Duck Flats:** Due to an existing response at the Valdez Container Terminal the Duck Flats sensitive area protection tactic was only deployed on the west side of the dock, not the east side. The equipment and personnel needed to deploy both east and west sides of the Duck Flats were utilized to deploy boom on the west side, and the partial deployment took seven hours to complete. The VMT plan states that the Duck Flats tactic, which includes installation of protection boom on both east and west sides, would be deployed within 6-10 hours. This deployment calls Alyeska's ability to meet this commitment into question. The department recommends Alyeska practice the tactic to ensure it is able to fully deploy the tactic with the resources and timeframes stated in the approved VMT plan. Department personnel would like to be invited to observe all future training deployments of the Duck Flats protection strategies.
5. **Solomon Gulch Hatchery Deployment:** The deployment of protection boom at the Hatchery, a priority sensitive area, did not demonstrate Alyeska's ability to protect the hatchery sufficiently or in a timely manner. Responders did not fill boom properly and the

DUCK  
FLATS  
TACTIC



deployment of shoreline boom did not create an adequate seal to preclude oil. Improved training and training frequency are recommended to ensure responders can protect sensitive areas identified in PWS. The department finds this objective unmet for the exercise.

6. **OWTF 5 Maneuverability:** The tactic consists of the skimming vessel *Valdez Star* maneuvering with the tank barge *Allison Creek* on the hip, in coordination with two fishing vessels towing boom in a U-shape ahead of the *Valdez Star*. The *Valdez Star* had difficulty maintaining effective positioning in relation to the boom gate. The *Allison Creek* was empty for this exercise and therefore should have been easier to maneuver than if it was being loaded with recovered liquid as it would be in an oil spill response. This tactic has been successfully practiced in the past. It is recommended Alyeska review and revise the training program for this tactic to ensure it can be successfully implemented in a response. If this tactic can no longer be implemented as described in the VMT plan, then the tactic should be reviewed and revised to provide a description of the tactic that would best meet the intent of this task force.
7. **Fishing Vessel Training:** It was evident from elements of the deployment that the Fishing Vessel Training program is preparing responders for deployment and use of spill response equipment. Both the Near Shore Tactic N-1B for the Current Buster and the inflatable boom deployment from the *Valdez Star* were executed efficiently and were well maintained throughout the exercise.
8. **Experimental Response Techniques:** During the exercise, Alyeska proposed the use of dispersants as a vapor suppressant, an experimental technique. This prompted discussion on the potential uses of dispersants and necessary analysis Alyeska, agencies, and the local community would need to carry out in order to approve untested response methods in an emergency event. While a decision was not reached in this specific instance, the discussion was valuable. It is recommended that:
  - a. Alyeska conduct further research into the application and effectiveness of dispersants as a suppressant for Alaska and North Slope Crude.
  - b. These conversations continue with agencies on how to use experimental response techniques and work to develop a process for handling these requests in future responses.
  - c. If it is determined that vapor suppression is a viable use of dispersants, their use for this purpose should be an objective for future exercises to continue testing the methods and flesh out remaining issues.
9. **Incorporation of City of Valdez and Human Health and Social Services (HHS):** The presence of community and HHS representatives was beneficial for all participants. Bringing the appropriate participants into exercises facilitates learning, identifies knowledge gaps, and improves relationships for an emergency response. It is recommended that Alyeska continue to invite a wide range of the appropriate jurisdictional agencies and community representatives to future training and exercises.

Sent to Bill  
~~GA~~

304.300 VMT 2001  
Coordination Group

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**DIVISION OF SPILL PREVENTION AND RESPONSE**  
**Industry Preparedness and Pipeline Program**  
**TAPS/JPO Section**

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**August 27, 2001**

Robert I. Shoaf  
Vice President  
Alyeska Pipeline Service Company  
1835 S. Bragaw, MS 528  
Anchorage, Alaska 99512

Dear Mr. Shoaf,

RE: Valdez Marine Terminal Oil Discharge Prevention and Contingency Plan, CP-35-2,  
Condition of Approval 6 (a), Hatchery and Duck Flats Protection Capabilities.

The purpose of this letter to transmit observations from the government initiated drill held on July 23, 2001 and the resultant status of Condition of Approval 6 (a).

As suggested in Alyeska Government letter # 01-17101, dated May 8, 2001, the agencies of the Joint Pipeline Office, including the Department of Environmental Conservation initiated an exercise requiring the protective booming of the Solomon Gulch Hatchery and the Valdez Duck Flats. Both SERVS personnel and the agencies have agreed that although the exercise objectives were met, the overall expectation of demonstrating response improvement was not met. Several key field observations resulting from the drill were as follows:

Initial activation of shore based personnel at the VEOC went very well, although field management seemed to lag.

Some protection resources were incomplete including lack of boom and anchor packages.

Equipment maintenance was insufficient. The CSI boom cable appeared loose on many sections and the shore seal boom air tubes initially leaked on seventeen sections, with three additional sections deflating during the course of the deployment.

SOA 009486

Crews were unable to deploy the Hatchery boom using established anchor points due to previously noted changes in the net pen configuration. No measures were implemented to compensate for this prior to the exercise.

The overall timeframes to deploy and configure the protection strategies was at the very upper limit of that given in the contingency plan.

It was the intention of the July 23 exercise to demonstrate sufficient reason to close out the condition of approval. However, given the above comments, we choose to keep the condition open until such time that 1) the above comments, as well as lessons learned from the exercise, can be addressed and 2) another exercise can be called with improved results.

To assist the agencies in calling another exercise, please send to us, as soon as possible, a listing of scheduled terminal work and other specific conditions that may preclude the exercise. The agencies will plan to call the next exercise within the next couple of months.

Thank you for your efforts to improve protection of the Valdez Duck Flats and the Solomon Gulch Hatchery. We look forward to following up on the July 23 exercise. If you have any questions, please do not hesitate to contact me.

Sincerely,

Bonnie Friedman  
TAPS/JPO Section Manager

Cc: Rod Hanson, APSC  
Jule Magee, APSC  
Bob Anderson, APSC  
Dennis Maguire, APSC  
Rod Hoffman, APSC  
Mike Wrabetz, BLM/JPO  
Betty Schorr, ADEC  
John Kotula, ADEC  
Leslie Pearson, ADEC

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- e. OL/TF 1 is listed twice within Hour 0-1. Are these resources performing simultaneous task or is the group divided? Please clarify the information in a trackable way.
- f. Please use ICS nomenclature in lieu of VMT daily positions. Example: Response Actions – OL/TF 1, Hour 0-1, lists Response Coordinator performing and directing actions. This position should be listed in accordance with ICS nomenclature.
- g. Response Actions On Water, Hour 0-1. This action describes workboats as dispatched with boom to enclose drainage without a task force assigned. This was interpreted as being part of OW/TF 1, however, during the group walk-through, it was determined that this action is performed by FO/TF 1 (also called NS FO/TF 1 on Table 5.4) which is already accounted for during hour 0-1 in Table 5-5.
  - i. Ensure task force identification is consistent.
  - ii. Remove duplication of resources on Table 5-5 by deleting the first mention of workboats.
- h. Response Actions on Water, Hour 0-1, states that NS/TF 1 is mobilizing to boom area around drainage 58 as well as sending an exclusion strike team to boom Allison Creek. During the group walk-through it was determined that booming Allison Creek is not feasible during Hour 0-1 and should be moved to Hour 1-3; mobilization of task forces would be ongoing during hour 0-1. Please correct this information to reflect realistic timeframes.
- i. Response Actions- On Land, Hour 0-1, states staging is mobilized. What resources are assigned to this action within Table 5.6, Resource Tally, page 5-29.
- j. Response Actions - On Water, Hour 0-1, Provides duplicate information for ESA protection mobilization, mentioned above in rows for Protection of ESAs. Consider eliminating duplicate information to ensure the information is presented clearly. Discharge Tracking, Hour 1-3 states “Situation scores 45 on protection matrix”.
  - i. Please Reference Part 1 decision matrix for protection of Duck Flats and Solomon Gulch Hatchery.
  - ii. The decision to mobilize happened in Hour 0-1 and the analysis using the decision matrix is cited during Hour 1-3. Please correct this discrepancy.
- k. Scenario 5, Table 5-5, page 5-25. Protection of ESAs, Hour 1-3, during the group walk-through, the need for Hatchery and Duck Flats actions to be broken out separately in to individual rows was identified. This would better correspond to the layout established in Hour 0-1 and present the information in a clear and trackable way.
- l.



**Comments on Alyeska Pipeline Service Company,  
Valdez Marine Terminal Oil Discharge Prevention and Contingency  
Plan, Amendment 2017-1**

**Submitted to the  
Alaska Department of Environmental Conservation  
United States Bureau of Land Management  
United States Coast Guard  
United States Environmental Protection Agency  
United States Department of Transportation**

Submitted by:

Prince William Sound Regional Citizens' Advisory Council (PWSRCAC)

**April 13, 2017**

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## 1. Regulatory Basis for Comments

The following comments are based on state and federal laws and regulations pertaining to Alyeska Pipeline Service Company's (APSC) Oil Discharge Prevention and Contingency Plan for the Valdez Marine Terminal (VMT), including:

1. Title 46 of the Alaska Statutes;
2. Title 18, Chapter 75 of Alaska Regulations;
3. 49 CFR Part 194, U.S. DOT's Regulations for Response Plans for Onshore Oil Pipelines;
4. 33 CFR Part 154, Subpart O, USCG Regulations for Facility Response Plans;
5. 40 CFR Part 112, EPA Regulations for Facility Response Plans;
6. Oil Pollution Act of 1990; and,
7. TAPS Grant and Lease.<sup>1</sup>

## 2. Volume 1, Part 3, Section 3.7, Non-Mechanical Response Information

The Alaska Department of Environmental Conservation's (ADEC's) January 14, 2015 Valdez Marine Terminal Contingency Plan (VMT C-Plan) revised approval included Condition of Approval No. 5 (COA 5), "Requirement to Include Nonmechanical Response Monitoring of Environmental Effects of the Nonmechanical Options." That condition states:

*APSC is required to develop protocols to assess potential environmental consequences, provisions for monitoring and real-time assessment of environmental effects of the nonmechanical response options proposed for inclusion into the VMT plan. APSC must demonstrate resources to conduct the required assessment and monitoring are available in-house or secured by contract. Further discussion on this issue can be found in Issue No. 24 in the attached findings document. This amendment must be submitted to the department by December 31, 2016. The amendment implementing this condition will undergo public review under 18 AAC 75.445. The department encourages review through the VMT Coordination Group prior to submission of an amendment to the plan.*

ADEC's November 21, 2014 VMT C-Plan Findings Document (Issue No. 24: Nonmechanical Response Monitoring) concluded improvements to APSC's nonmechanical response monitoring program were necessary:

*The department finds the plan includes provisions for monitoring efficiency and effectiveness of dispersant or in situ burning **but does not include specific mechanisms to assess the environmental consequences or provisions for continuous monitoring of its environmental effects.** To address this, the department is requiring APSC develop protocols for environmental monitoring as stated in Condition of Approval 5. [Emphasis added].*

<sup>1</sup> Renewal of the Agreement and Grant of Right-of-Way for the Trans-Alaska Pipeline and Related Facilities between The United States of America and Amerada Hess Pipeline Corporation, BP Pipelines (Alaska) Inc., ExxonMobil Pipeline Company, Phillips Transportation Alaska, Inc., Unocal Pipeline Company, and Williams Alaska Pipeline Company, LLC, 2003.

*The plan proposes use of nonmechanical response options, dispersants and in situ burning, as one of many tools to respond to an oil spill. **The plan does not however include a description of the specific mechanisms in place to assess the environmental consequences of nonmechanical response options and provide continuous monitoring with real-time assessment of environmental effects.** The plan does reference the Special Monitoring of Applied Response Technologies (SMART) protocol which provides procedures for monitoring the effectiveness of the nonmechanical response options on the oil. The response to R2RFAI 35 references the company that is contracted to monitor effectiveness of both dispersants and in-situ burning. **Department contact with the contractor via telephone on August 28, 2014, confirmed the contractor does not provide monitoring of environmental consequences of nonmechanical response options or continuous monitoring of their environmental effects. The plan also does not include an assessment of potential environmental consequences and provisions for continuous monitoring with real-time assessment of environmental effects.** [Emphasis added].*

**The department is requiring APSC to develop protocols to assess the potential environmental consequences of the nonmechanical response options presented in the plan and to provide for continuous monitoring of their real-time environmental effects.** APSC must submit an amendment to the VMT plan that describes those protocols, how they will be implemented during a response, and demonstrate that the resources can be secured either through in-house capabilities or via contract, see Condition of Approval 5. [Emphasis added].

APSC's proposed amendment includes changes to the dispersant use section (Volume 1, Part 1, Section 1.7) and non-mechanical response section (Volume 1, Part 3, Section 3.7) of the plan. The proposed amendment references "Annex F of the Unified Plan" which should be appropriately referenced as Annex F, Appendix I: Alaska Regional Response Team Dispersant Use Plan for Alaska as part of the *Alaska Federal/State Preparedness Plan for Response to Oil and Hazardous Substance Discharges and Releases* ("Unified Plan"). Annex F, Appendix I guides dispersant use authorization in Alaska's marine waters including Prince William Sound. The amendment also references NOAA's Special Monitoring of Applied Response Technologies (SMART) protocols and visual observations to monitor the effectiveness of non-mechanical response options.

PWSRCAC finds the proposed changes to these sections do not fully address the requirements of COA 5 for the following reasons:

- The reference and link to Annex F of the Unified Plan have been added to the VMT C-Plan. However, PWSRCAC does not find Annex F provides all the information required by ADEC in COA 5. Specifically, Annex F does not include "specific mechanisms to assess the environmental consequences or provisions for continuous monitoring of its environmental effects" and "protocols for environmental monitoring." Annex F, Appendix I provides for limited pre-application environmental assessment and briefly notes the need for continuous monitoring after dispersants are applied, but fails to adequately address the need for protocols to assess environmental effects before, during, or after dispersant use.
- NOAA's Special Monitoring of Applied Response Technologies (SMART) protocols are designed to evaluate dispersant effectiveness and do not address the information requested in COA 5. SMART does not include specific instruction on what steps should be taken to assess environmental consequences or environmental effects.



- The VMT C-Plan references NOAA’s Natural Resource Damage Assessment (NRDA) method, but this method does not satisfy the requirements of COA 5. NRDA is a long term assessment and monitoring approach, not a real-time assessment of environmental consequences or environmental effects.
- This amendment does not provide monitoring and real-time assessment of environmental effects of the nonmechanical response options proposed in the VMT plan.
- This amendment does not demonstrate that APSC has the personnel, equipment, or expertise to carry out the required nonmechanical assessment and monitoring work, or clearly explain which contractor would perform this work and provide sufficient information to show that the contractor has this expertise and capability. This issue was raised during the last C-Plan renewal as ADEC was unable to verify in an August 28, 2014 telephone call that APSC’s contractor had the expertise or equipment to complete this work.

PWSRCAC is also concerned that APSC’s proposed changes to the VMT C-Plan to meet COA 5 were not discussed in the VMT Coordination Workgroup prior to submission of this amendment. One of the primary purposes of the VMT Coordination Workgroup is to provide an open forum for communication and discussion of topics. The proposed amendment to meet COA 5 was not discussed with the workgroup, thus reducing the effectiveness of the workgroup process and resulting in an amendment not supported by PWSRCAC.

**PWSRCAC recommends the VMT C-Plan be amended to meet the requirements of Condition of Approval No. 5 by addressing the inadequacies described above.**

PWSRCAC developed a set of protocols for Prince William Sound entitled *Prince William Sound Dispersants Monitoring Protocol: Implementation and Enhancement of SMART (Special Monitoring of Applied Response Technologies)* dated July 2016. This set of environmental monitoring protocols for Prince William Sound was developed for use in the immediate aftermath of non-mechanical response technology application. Developed in consultation with regulatory stakeholders and independent oil spill response experts, these protocols provide improved monitoring guidelines, including a biological monitoring component, to fit within the response framework of the Dispersant Use Plan for Alaska and the federal SMART protocols.

PWSRCAC presented these draft protocols to the VMT C-Plan Coordination Workgroup in August 2016 for consideration in helping APSC meet the requirements of COA 5. The final document was transmitted to APSC, USCG, EPA, and the Alaska Regional Response Team on December 5, 2016. PWSRCAC requested APSC consider incorporating the protocols into the VMT C-Plan to meet the requirements of COA 5.

These protocols were specifically written for PWS responders to use during an actual event. The intent is to have a PWS-specific protocol that fits seamlessly into the PWS responder’s work process, while providing responders with the ability to deal with environmental and biological monitoring before and after dispersant application.

The core purpose of the PWSRCAC’s report is to outline “a dispersants monitoring protocol that builds on the SMART protocol” and “specifies additional pre- and post-spill monitoring activities to complement field testing during a dispersant application.” The content of PWSRCAC’s report directly addresses the non-mechanical response monitoring inadequacies identified in ADEC’s November 2014 C-Plan Final Findings Document and requirements of COA 5. Inclusion of the *Prince William Sound Dispersants Monitoring Protocol: Implementation and Enhancement of SMART (Special Monitoring of Applied Response*

*Technologies*) would specifically address the first requirements of COA 5 which are “to develop protocols to assess potential environmental effects of the nonmechanical response” and to “demonstrate resources to conduct the required assessment and monitoring.”

**PWSRCAC requests the VMT C-Plan be amended to incorporate the *Prince William Sound Dispersants Monitoring Protocol: Implementation and Enhancement of SMART (Special Monitoring of Applied Response Technologies)* by reference or provide an equivalent site-specific plan.**

### 3. Volume 1, Part 1, Section 1.7, Dispersant Use

It remains PWSRCAC’s position that dispersants should not be included in the VMT C-Plan as a non-mechanical response option because dispersants can adversely impact the health of marine resources that stakeholders depend on for their food, culture, and livelihoods. PWSRCAC’s position on dispersants is:

*After years of observing dispersant trials, dispersant effectiveness monitoring, advising and sponsoring independent research regarding chemical dispersant use, it is the position of the Prince William Sound Regional Citizens’ Advisory Council (the Council) that dispersants should not be used on Alaska North Slope crude oil spills in the waters of our region. Until such time as chemical dispersant effectiveness is demonstrated in our region and shown to minimize adverse effects on the environment, the Council does not support dispersant use as an oil spill response option. Mechanical recovery and containment of crude oil spilled at sea should remain the primary methodology employed in our region.<sup>2</sup>*

Among PWSRCAC’s concerns is the scarcity of reliable, peer-reviewed, scientific data about the efficacy, toxicity, and persistence of dispersants and dispersed oil in Prince William Sound/Gulf of Alaska conditions. Conclusive demonstrations of chemical dispersant efficacy in the cold waters of Prince William Sound have not been completed. It is PWSRCAC’s opinion that dispersant use in Port Valdez is generally not appropriate for the following reasons:

- Low salinity (freshwater lensing also significantly lowers the salinity of the surface waters where any potential dispersants may be applied thus interfering with their effectiveness);
- Lack of mixing (residence time for water in the Port basin is very long and it takes a great deal of time for the water in the Port to turnover or exchange and strong seasonal freshwater lensing effect in the Port interferes with the successful mixing of any potential dispersants use for much of the year);
- Proximity to humans that live, work, and recreate in Port Valdez; and,
- A host of environmentally sensitive sites and species, and economically important resources (e.g., commercial fisheries) that would be disproportionately harmed by exposure to sub-surface dispersed oil.

Additionally, PWSRCAC questions dispersant use based upon recent photo enhanced toxicity concerns and other outstanding questions regarding long-term effects. Photo enhanced toxicity occurs when a chemical becomes more toxic if exposed to the ultraviolet light present in natural sunlight.

<sup>2</sup> PWSRCAC, Dispersants Use Position Statement, May 3, 2006.

**PWSRCAC recommends dispersant use application be prohibited in Port Valdez until such time that scientific information can be provided that clearly demonstrates that chemical dispersants can be used safely and effectively, and are proven to present a net environmental benefit to the marine resources that stakeholders depend on for their food, culture, and livelihoods, relative to other oil spill response options including mechanical recovery.**

While PWSRCAC assumes that APSC's proposed revisions to Volume 1, Part 1, Section 1, Dispersant Use are intended to meet the first part of COA 5 (requiring protocols for environmental monitoring and assessment), as explained above, it is PWSRCAC's opinion that the proposed changes do not meet the requirements of COA 5. This proposed revision provides no method or protocol to assess potential or real-time environmental effects of non-mechanical response.

Annex F in the Unified Plan, referenced by APSC, currently guides dispersant use authorization in Alaska's marine waters, including Prince William Sound and the marine waters adjacent to the VMT where a spill from the VMT could spread. Annex F eliminates pre-approval zones for all state waters including Port Valdez. While this does not eliminate the ability to obtain dispersant use permission for use in Port Valdez, it requires substantial consultation and scientific inquiry prior to dispersant use approval.

Even though PWSRCAC strongly opposes dispersant use in Port Valdez, PWSRCAC recognizes that there is a process in place to facilitate the use of dispersants in our region. It is critical that substantial consultation, scientific inquiry and comprehensive monitoring protocols are in place to guide dispersant use.

#### **4. Volume 1, Part 3, Section 3.9, Response Training**

APSC's proposed amendment to Volume 1, Part 3, Section 3.9, Response Training proposes to delete all the Field Responder Training course descriptions and goals for each training module that is not supported by PWSRCAC.

The following historical background is included to provide an understanding that oil spill response training has been an important issue in the VMT C-Plan in the past.

- On June 18, 2004, ADEC issued an Out of Compliance Notification to APSC for response training in the VMT C-Plan. A review by ADEC in February 2004 found that APSC's training program was different from what was contained in the plan. The Out of Compliance Notification required an amendment to the plan that provided an accurate detailed description of training programs in place for discharge response personnel.
- APSC's January 31, 2007 Government Letter 11094 explained that APSC developed a comprehensive training program through a multi-stakeholder process. APSC wrote: "The Oil Spill Response Training Management Program manual is submitted as a supporting document for your review and reference. This amendment and program were completed after a protracted period and working the process through a workgroup including APSC personnel, the Alaska Department of Environmental Conservation (ADEC) and the Prince William Sound (PWS) Regional Citizens' Advisory Council (RCAC). An APSC project team was ultimately formed and worked the project through the compliance schedule outline in Part 2, Section 2.7.5.3; regulators and stakeholders were regularly informed of project status. Throughout the project, the input and ideas of all parties were carefully evaluated, considered, and incorporated as appropriate. **APSC believes that the resulting**

**products are an improvement of its oil spill response training, documentation, and management processes.** [Emphasis added.]

- APSC’s Oil Spill Response Training Management Program, AMS-011-01 (210 pages) was incorporated into the VMT C-Plan in 2007 to meet the commitment in the Compliance Schedule and Waivers Section 2.7 of the VMT C-Plan.
- In 2014, despite PWSRCAC’s opposition, ADEC approved a revision to the VMT Response Training Program that removed reference to the detailed APSC’s Oil Spill Response Training Management Program, AMS-011-01. ADEC had previously required this level of detail in 2007 and reversed its position in 2014, allowing APSC to delete most of response training program details.<sup>3</sup>
- Course descriptions were retained in the response training section in the 2014 VMT C-Plan. APSC now proposes to delete this last remnant of its response training program that was once promoted to be an **“improvement of its oil spill response training, documentation, and management processes.”**
- An important improvement to the plan resulting from multi-stakeholder efforts has been reversed in a few short years, and PWSRCAC does not understand this reversal of position.
- If this proposed amendment is approved, the majority of the response training program information will be eliminated from the plan quality.
- Based on past work on improvements to response training information in the plan, PWSRCAC does not support removal of the information as proposed.

PWSRCAC does not support the proposed amendment as it:

- Does not include any justification for deleting 21 pages of the Field Responder Training course descriptions and goals for each training module from the existing, approved VMT C-Plan.
- Continues to erode the quality of the response training program, which is inconsistent with the regulatory standard of “a detailed description of the training programs for discharge response personnel” (18 AAC 75.425(e)(3)(I)).

PWSRCAC is also concerned that the proposed response training amendment was not presented to the VMT C-Plan Coordination Workgroup for discussion prior to submission. The proposed amendment was not discussed with the workgroup, again reducing the effectiveness of the workgroup and resulting in an amendment not supported by PWSRCAC.

PWSRCAC maintains its position that the level of detail required by ADEC in 2007 to meet the VMT C-Plan Condition of Approval to improve the VMT Response Training Program should be met today, and the standard 10 years later should not be lowered. The plan should be continuously improved, not degraded.

**PWSRCAC recommends that the existing Response Training Program be retained without revision.**

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<sup>3</sup> ADEC VMT Plan Findings Document, Issue No. 17: Response Training, November 21, 2014.

## 5. Volume 3, Section 9.0.2.1, SGH and DF SA Protection Mobilization Decision Matrix

APSC's proposed amendment to Volume 3, Section 9.0.2.1 deletes the existing, approved Solomon Gulch Hatchery (SGH) and Valdez Duck Flats (DF) Sensitive Area Protection Mobilization Decision Matrix (the Matrix) and replaces it with a completely new table that will result in less protection. PWSRCAC does not support this proposed change.

APSC proposes changes to the Matrix that will make it so difficult to ever trigger the protection threshold (even in a very large spill), that there will be few situations where SGH and DF protection would actually be triggered. PWSRCAC is concerned that by modifying the Matrix developed in 1997 by a multi-stakeholder working group (including state and federal trustee agencies) a weakening of a long-standing protection strategy will be reduced without justification.

PWSRCAC recommends that the protection tactics for the SGH and DF be initiated immediately regardless of the initial weather and sea conditions. Those conditions can rapidly change, and it takes a substantial amount of time to deploy those tactics. The environmental and economic value of these two local resources are too high to risk hydrocarbon contamination. Sensitive area protection tactics should be performed simultaneously while other personnel and equipment are working on source control and other prudent response efforts. APSC should have sufficient personnel and resources to clean up the spilled oil and simultaneously protect sensitive areas in Port Valdez.

PWSRCAC provides the following historical background for an understanding that this is an important issue to commercial fishermen, subsistence users, local residents, and the ecosystem.

- The Matrix was created many years ago based on years of actual experience and oil spills. PWSRCAC does not recommend unraveling the progress made previously.
- An important lesson learned from the May 1994 *Eastern Lion* spill was that a spill of 10 gallons or more should automatically (combined with other factors in the 1997 matrix) trigger mobilization of SGH and DH protection. APSC's threshold for mobilizing SGH and DH protection was too high in 1994, and these sensitive areas were not adequately or timely protected. Oil from this spill reached the net pens in 18 hours.
- A June 6, 1994, PWSRCAC letter to APSC summarized the lessons learned from the May 1994 *Eastern Lion* spill. PWSRCAC recommended a lower threshold for mobilizing SGH and DH protection, and explained the adverse consequences of delayed protection. PWSRCAC wrote:
 

*The Hatchery Plan states on page 506-2 "Protection of fish hatcheries exposed to the threat of a spill in Prince William Sound is one of the highest priorities in the near shore response strategy. Oil got into the net pens at Solomon Gulch Hatchery, as the main boom around the hatchery was not placed until after oil had reached the net pens. If this had been a bigger spill or it had occurred under different tide or wind conditions, this could have been disastrous."*
- PWSRCAC also recommended automatic hatchery booming for any release of oil in Port Valdez based on lessons learned in the October 20-21, 1992 oil spill drill in Port Valdez. Hatchery personnel were concerned that if oil impregnated the shoreline and the brood lagoon, the oil may leech out the soil over time and damage the fisheries resource.
- PWSRCAC recommended automatic Duck Flats protection because this area is recognized as one of the most environmentally sensitive areas in Port Valdez.

- Actual spill and drill experience and lessons learned were examined by a multi-stakeholder workgroup including state and federal trustee agencies. This information was used to develop the currently approved SGH and DF Sensitive Area Protection Mobilization Decision Matrix as a condition of plan approval in 1997.
- The existing Matrix was approved by state and federal agencies, and has been in place and an effective tool for almost 20 years.
- The existing Matrix provides criteria and assessment points for use by the Initial Incident Commander at the start of a spill, and for Incident Command to continue to use throughout the early part of a spill response, to ensure SGH and DF sensitive area protection remains in the forefront of response decision making for spills in Port Valdez.
- The existing Matrix takes into account the importance of protecting the SGH and DF sensitive areas, in a number of situations, even if the oil spill trajectory is currently moving away from these sites. It takes substantial time (approximately 10-12 hours) to deploy protection at these sensitive areas, and there may not be time to deploy protection when weather, tide and current conditions rapidly change the direction of the spilled oil.
- The existing Matrix provides a conservative approach to protecting the SGH and DF sensitive areas, by requiring protection deployment for large spills, uncontained oil, and when currents, winds, waves, and visibility all adversely impact response effectiveness.

PWSRCAC does not support APSC's proposed amendment for the following reasons:

- APSC's proposed changes to the Matrix were presented to the VMT C-Plan Coordination Workgroup, and no consensus was reached between workgroup members APSC, federal and state agencies, and PWSRCAC. PWSRCAC did not agree with the proposed changes.
- APSC's proposed changes do not provide justification for deleting an effective tool and replacing it with an untested tool.
- APSC's proposed changes do not take into account the lessons learned during prior spills (e.g., *Eastern Lion*), oil spill drills and exercises in Port Valdez, and exercises that show how long it takes to actually mobilize and deploy SGH and DF protection.
- APSC's proposed changes to the scoring process and threshold for determining when to protect the SGH and DF would delay or impede protection of these sensitive areas, even in large oil spill events.
- Overall, APSC proposes a less conservative protection plan, assuming the oil spill trajectory will not rapidly change and that there will be time to deploy protection if it does.
- Currently, SGH and DF protection is deployed simultaneous to oil recovery operations if the Matrix score equals or exceeds 25. Therefore, APSC must have the capability to both recover spilled oil and protect SGH and DF. Since APSC is required to have this capability, PWSRCAC does not understand why equipment would not be deployed. No one benefits from this risky strategy.
- APSC proposes to amend the trigger point for protection to a lower score of 12, but has eliminated a number of categories where points can be assigned, and has reduced the value of each category substantially. The end result shows it would be much more difficult to reach a score of 12 to trigger the requirement to protect the SGH and DF sites.

- The existing Matrix assigns high point values to large, uncontained spills, and assigns high point values to more challenging response conditions (where the oil is moving towards the site or the weather is unfavorable for effective response).
  - For example, using the existing Matrix, a score of 25 would be computed for an uncontained spill (10 points) of 35 barrels or more (10 points), low visibility (2 points), and high winds (3 points).
  - By comparison, using APSC's proposed Matrix, the same uncontained spill of 35 barrels would only be assigned 5 points, 0 for reduced visibility (this category was removed by APSC), and only 2 points for high winds. Therefore, the score would result in no SGH or DF protection deployment at all.
  - In sum, APSC has revised the Matrix so that a lower score is computed at a threshold that would not trigger protection for the same physical circumstances that would have triggered protection under the existing Matrix.

A detailed comparison of APSC's proposed Matrix change is provided below:

- All points for wave height were deleted. Yet, it is well understood that increasing wave height reduces oil recovery response effectiveness.
- All points for visibility impacts were deleted. Yet, it is well understood that reduced visibility adversely impacts oil recovery response effectiveness.
- All points for wind direction coming from the east or north were deleted. The revised Matrix assumes there will be sufficient time to protect the SGH and DF as long as oil is moving away from those sites. Yet, it can take up to 12 hours to deploy these sites, and experience shows Port Valdez weather can change rapidly and leave responders with insufficient time to deploy protection equipment.
- All points for current direction were deleted. Yet, it is well understood that current direction will influence the path of spilled oil. PWSRCAC understands that it can be difficult for an onshore responder to estimate the current direction from the shore, however, a worst-case current direction (to the east) should be used as the default until improved data is available.
- The revised Matrix proposes to only trigger SGH and DF protection when a point total of 12 is reached, compared to 25 points in the existing Matrix (a 48% reduction). The number of categories where points can be assigned has been decreased, as well as the maximum point total for each impact category.
- The proposed changes reduce the amount of points assigned to spill magnitude. The existing Matrix assigns 10 points to unknown spill volumes, spills of 10-35 barrels, and spills with a high rate of release. The proposed revision only assigns 2 points to a spill of 10-35 barrels, and assigns 0 points to spills of unknown spill volumes or high rates of release. To obtain 4 points in the new Matrix, the spill must be at least 10,000 barrels.
- To further illustrate PWSRCAC's concerns, the example below shows how an oil spill in Port Valdez (59,000 barrels, a Scenario 4 sized spill) would not trigger protection under the proposed Matrix.
  - Spill Magnitude: 59,000-barrel spill (4 points)
  - Source Control: Secured (0 points)
  - Uncontained (4 points)
  - Tide Cycle Ebb (0 points)
  - Wind Velocity 30 knots (2 points)
  - Wind Direction from east (0 points)
  - Wave Height 2 ft. (0 points)

The point total for this scenario would only be 10 points meaning no action would be taken to protect SGH or the DF (because the score is less than 12) even when 59,000 barrels of oil were floating on the water in Port Valdez.

- By comparison, the existing Matrix would immediately instruct responders to protect the SGH and DF sites:
  - Spill Magnitude: 59,000-barrel spill (10 points)
  - Source Control: Secured (0 points)
  - Uncontained (10 points)
  - Tide Cycle Ebb (0 points)
  - Wind Velocity 30 knots (3 points)
  - Wind Direction from east (1 point)
  - Wave Height 2 ft. (2 points)

The point total for this scenario would be 26 points meaning action would be taken to protect SGH or the DF.

It is important to note that the proposed Matrix revision is so flawed that there are circumstances where a large spill from the VMT to Port Valdez close to SGH and DF would not trigger any protection. For example, using the proposed Matrix and the VMT Response Planning Standard (RPS) spill size of 155,000 barrels to water (VMT Scenario 5 Spill Volume) would result in the following points assigned:

- Spill Magnitude: 155,000 -barrel spill (4 points)
- Source Control: Secured (0 points)
- Uncontained (4 points)
- Tide Cycle Ebb (0 points)
- Wind Velocity 30 knots (2 points)
- Wind Direction from east (0 points)
- Wave Height 2' (0 points)

The point total for this scenario would only be 10 points meaning take no action would be taken to protect SGH or the DF (because the score is less than 12) even when 155,000 barrels of oil were floating on the water in Port Valdez.

By comparison, the existing Matrix would immediately instruct responders to protect the SGH and DF sites in response to a large 155,000-barrel spill:

- Spill Magnitude: 155,000-barrel spill (10 points)
- Source Control: Secured (0 points)
- Uncontained (10 points)
- Tide Cycle Ebb (0 points)
- Wind Velocity 30 knots (3 points)
- Wind Direction from east (1 point)
- Wave Height 2' (2 points)

The point total for this scenario would tally to 26 points meaning, APSC would take action to protect SGH or the DF.

**PWSRCAC recommends the existing SGH and DF Protection Matrix be retained without revision.**



**6. Volume 2, Section 4, Scenario 4 59,000-barrel spill to Open Water**

APSC's proposed amendment to Volume 2, Section 4 includes a major amendment to Scenario 4. APSC's proposed changes were presented and discussed with the VMT C-Plan Coordination Workgroup. PWSRCAC provided both oral and written comment on the proposed amendment to APSC through the workgroup process. No consensus was reached between APSC, federal and state agencies and PWSRCAC (the workgroup members).

PWSRCAC has five main concerns with the proposed amendment:

1. The scenario is a large 59,000-barrel (2.5 million gallon) crude oil spill into Port Valdez, but would not require any protection of the SGH or DF based on changes to Volume 3, Section 9.0.2.1, SGH and DF Sensitive Area Protection Mobilization Decision Matrix. As explained above, deploying personnel and equipment using the proposed matrix revision would not occur. PWSRCAC does not support changes to a 20-year-old matrix that results in less protection to environmentally and economically sensitive resources. Under the proposed changes, oil would need to be heading directly to the SGH and DF before protection resources would be assigned, and by that time it may be too late to deploy protection (which could take 10-12 hours or more) before those areas are oiled.
2. The proposed amendment raises serious concerns with the Valdez Fisheries Development Association Inc. and may adversely impact commercial fishermen in our region. In a December 11, 2016 letter to ADEC, the Valdez Fisheries Development Association Inc. (VFDA), Solomon Gulch Hatchery opposed changes to Scenario 4 that would delay SGH protection because there is insufficient time to deploy protection if weather conditions change, and because the economic impact of oil reaching the hatchery (only 3 nautical miles away) would be devastating. VFDA requested "the previous commitment for swift protection of the hatchery" be retained. PWSRCAC fully agrees with VFDA's comments. A copy of VFDA's December 11, 2016 letter to ADEC is attached.
3. The proposed response plan is not consistent with the actions APSC would take, or has taken, in prior oil spill response exercises for this size spill and spill location. APSC has a large amount of open water oil spill response equipment available for deployment in Port Valdez. Scenario 4 proposes to use a small portion of that available equipment, minimizing the amount, type and pace of equipment brought to the spill location.
4. Existing Scenario 4, Table 4.3.4 (Response Planning Standard Calculation and Assumption for On Water Recovery Capacity) has been deleted, without replacement.
5. The Scenario lacks a detailed waste management plan and detailed waste management calculations to show the different waste volumes and that ASPC has the resources to handle all waste streams.

**PWSRCAC recommends that Scenario 4 be revised as follows:**

- (1) Include deployment of SGH and DF protection early in the spill. For any large spill from the VMT, such as that described in Scenario 4, the protection tactics of the SGH and DF should be initiated immediately regardless of the initial weather and sea conditions because in reality those can change rapidly, it takes a substantial amount of time to deploy those tactics, and the environmental and economic value of those two local resources are too high**

**to risk contamination. Those tactics should be performed simultaneously while other personnel and equipment is working on source control and other prudent response efforts;**

- (2) A rapid response fleet be developed to provide sensitive area protection in the Port Valdez vicinity;**
- (3) The scenario optimize use of existing on water recovery assets consistent with the approach APSC would actually take during the spill;**
- (4) Table 4.3.4 be revised to match the changes in the scenario and be retained; and**
- (5) A detailed waste management plan be included so the type and volume of each waste stream is clear, and that the scenario clearly explains the personnel, equipment, and logistical resources and experts assigned to handling each waste stream.**

area or an area of public concern that would likely be impacted if a discharge occurs, and that this equipment and personnel will be deployed and maintained on a time schedule that will protect those areas before oil reaches them according to the predicted oil trajectories for an oil discharge of the volumes established under 18 AAC 75.430 – 18 AAC 75.442; areas identified in the plan must include areas added by the Department as a condition of plan approval.”

AS 46.04.030(e) states that the Department “...may attach reasonable terms and conditions to its approval or modification of a contingency plan that the department determines are necessary to ensure that the applicant for a contingency plan has access to sufficient resources to protect environmentally sensitive areas....”

### **Response to Comments and Basis for Decision**

PWS RCAC requested clarification regarding deployment times and verification that the protection strategies for the Valdez Duck Flats and Solomon Gulch Hatchery reflected the protection enhancements demonstrated in an unannounced February 19, 2002 exercise. Enhanced protection strategies were developed by Alyeska and refined through discussions with agency representatives and stakeholders in the VMT C-Plan Coordination Group during the last plan renewal cycle. The strategies were subsequently tested by the Department in July 2001, re-worked, and tested again in February 2002. Following the test in February 2002, Alyeska developed plan amendments that the Department determined were sufficient for public review as part of the current renewal application. The plan submitted for public review did not contain all of the deployment times that had been validated in February 2002 drill. However, Alyeska’s RFAI response corrected the identified discrepancies and added language specifying that the deployments would be conducted simultaneously. In order to meet regulatory requirements for protection of environmentally sensitive areas before oil reaches them, Alyeska must be capable of deploying the Duck Flats and Hatchery protective strategies simultaneously while maintaining a full response to the leading edge of an RPS volume oil spill.

PWS RCAC also commented that the Department should require a plan amendment stating that Alyeska would commit to implementing Prince William Sound (PWS) Geographic Response Strategies (GRSs) for any sites threatened by a VMT release and that the GRS sites outside of Port Valdez would be included in the prioritization process for protection of environmentally sensitive areas. The RPS Scenario does not plan for oil to exit Port Valdez as a result of an RPS volume discharge, and Alyeska is therefore not required to specifically plan for response outside of the RPS volume impact area. Nonetheless, the Department recognizes that spilled oil could impact PWS beyond Port Valdez. The PWS GRSs are in the process of being prepared for incorporation into the next revision of the PWS Subarea Plan. Once housed there, they will be part of the overall response plan for the region. Additionally, the Department, Alyeska, and local citizens are familiar with the GRSs developed for PWS and have participated in the site selection and testing of the strategies developed. Until the GRSs are incorporated into the Subarea Plan, this familiarization will ensure that GRS sites are properly considered in the event of a discharge that would impact marine and nearshore areas outside of Port Valdez.

Tom Lakosh commented that there needs to be immediately deployable pre-positioned response equipment at sensitive areas in Port Valdez such as rapid boom deployment skids with mooring and guide lines that can quickly attach to pre-positioned off-shore anchors. However, Mr.

SOA006117

# EXHIBIT 9

PWSRCAC Report on Eastern Lion Spill  
(May 31, 1994)



Eastern Lion Oil Spill

May 21, 1994

Preliminary Report  
prepared for  
Regional Citizens' Advisory Council  
Oil Spill Prevention and Response Committee  
by

Tim Jones  
May 31, 1994

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## EXECUTIVE SUMMARY

Around 9 p.m. Saturday, May 21, 1994, a crewman looked overboard from the Tank Vessel Eastern Lion at Berth 5 of the Alyeska Marine Terminal and saw oil in the water near the ship. The Lion was on charter to British Petroleum. It has a capacity of more than 2 million barrels and had approximately 829,000 barrels in tanks at the time of the report. The ship was just about to resume loading after an interruption of about three hours. The spill was assessed immediately at 50 gallons. Terminal oil spill crews responded with Marco and JBF skimmers and the Valdez Star was mobilized. The terminal notified agencies and then SERVVS at about 9:30. SERVVS began mobilizing its equipment and personnel including four fishing vessels called out at 10:15 and another four about an hour later. Eventually four of the escort emergency response vessels also were brought to the scene. The 12,000 barrel storage barge Allison Creek mobilized.

Oil escaped the primary boom and a second one taken from Berth 3 was placed around the ship but oil escaped that one as well. A section of this boom at the bow of the ship had been placed almost perpendicular to the strong tidal current and oil was entraining under it. Once outside the boom, the oil quickly spread out into sheens and pools and windrows along tidal current lines. Deflection booms were set up at Saw Island, a small island adjacent to the berth to the Southwest. Another was placed behind the ship off the berth. The terminal skimmers worked inside the ship's booms. Two barges with transrec 350 skimmers on board were standing by in the port but not used.

Collection of the oil that escaped was attempted with the ERVs and fishing vessels using U configured Kepner and absorbent booms and some Vikoma Ocean boom. The Valdez Star worked on windrows and the captain directed other vessels to oil missed by the Star.

Three out of four of the ERVs attempted making J formation with their booms and placing a Sea Skimmer 50 in the apex. However, for the most part two of the three towed their booms with large bellies leaving the skimmer 100 feet or more from the collected oil.

No attempt was observed to use strategies and techniques developed for the Prince William Sound Near Shore plan, nor was any of the near shore equipment observed in use. One vessel, the landing craft Krystal Sea with some near shore equipment aboard used its Desmi skimmer for a time in the containment boom around the ship. This vessel later was called to lighten the small skimmers working near the ship.

A helicopter made a survey of the spill area around 5 a.m. and that observation raised the estimated spill amount to 200 barrels. Because the oil separated so quickly once it was outside the boom and because the amount was so small it won't show up on tank ullages, the actual size of the spill probably won't be known.

The spill occurred during the period of strong tides and the extreme of the range in Port Valdez. High built to 14.3 feet Wednesday with a low of -3.6.

SERVVS crews closed a boom around net pens at Solomon Gulch hatchery east of the terminal in the early morning hours, however did not place a main exclusion boom that was available and designed to protect waters adjacent to the hatchery. At the time there were 900,000 silver salmon smolts present in one pen.

Eight fishing vessels joined the operation early with 17 more coming. Through the day the response

effort consisted of the small skimmers at the ship, the Valdez Star, a 123-foot dynamic incline skimmer, skimming on oil sheens, and the ERVs attempting J booms with Sea Skimmer 50s following sheens. Only one of the ERVs held the boom in any kind of configuration that consistently would allow the skimmer to work efficiently. Fishing vessels were used to hold deflection booms and U booms collecting oil or in conjunction with the ERV efforts. Later absorbent material was placed in the booms and absorbent appeared to be the most effective way to collect the thin sheens. These efforts were aided by a helicopter spotting sheens and adjusting booms. Only one was used when it might have been helpful to have two or three, one for each task force.

At about 2 p.m. the helicopter directing operations spotted oil approaching the hatchery and called for boats with absorbent and other booms to come to the area to protect it. At 3:11 p.m. the oil was observed inside the net pen with the silver salmon. At this time the main exclusion boom around the hatchery still had not been placed. The original boom around the net pens presented a face almost perpendicular to the approaching oil which also could have led to entrainment. Oil appeared in the net pen as two sheens approximately 3 feet in diameter. A salinity barrier on the net pens probably prevented more oil from entering the pens. No mortality was observed in the fish and these sheens dissipated rapidly, according to the hatchery manager.

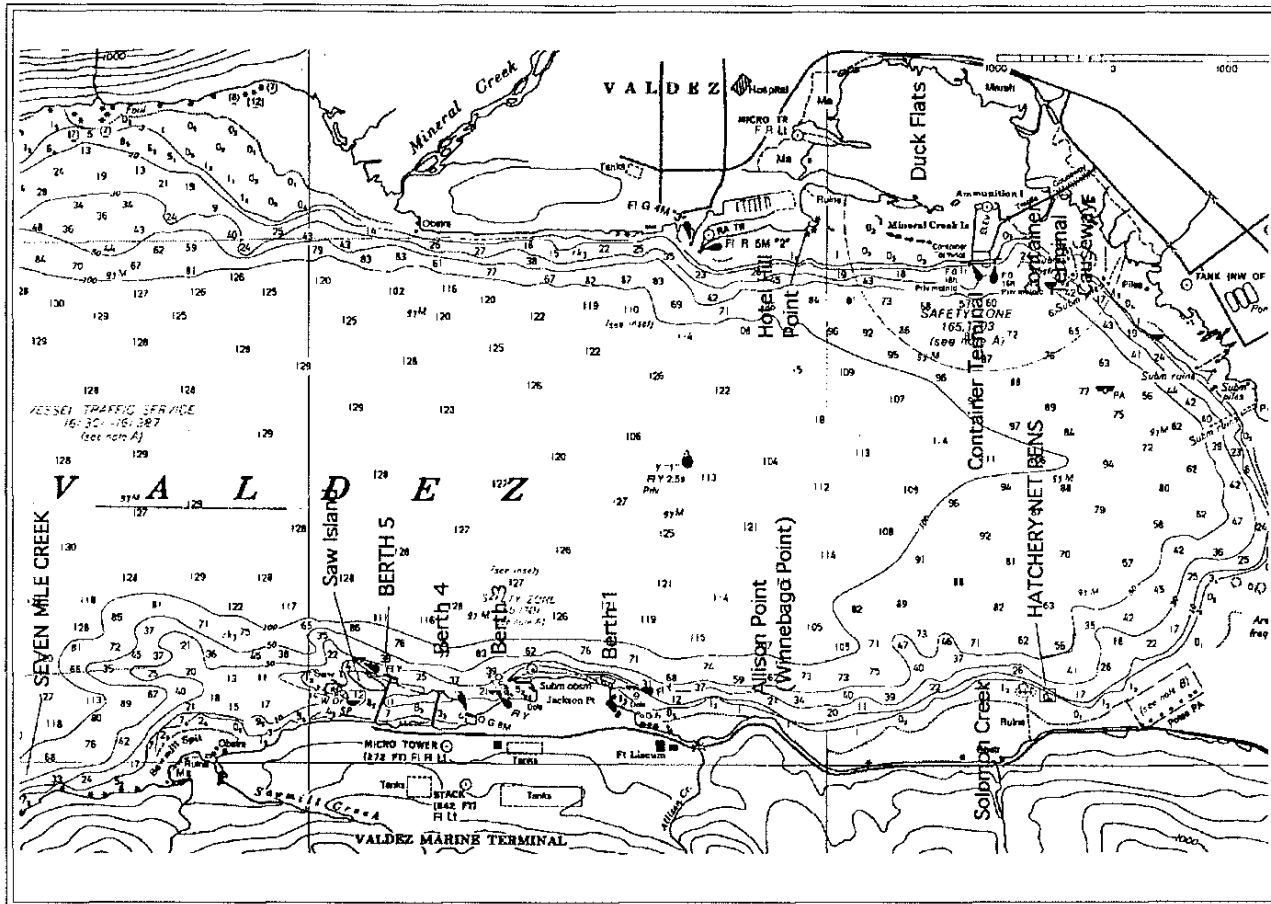
By Monday morning oil had reached the area of the Valdez Container Dock, 3.3 miles northeast of the ship and was approaching land to the East of the dock at the approaches to the Valdez Duck Flats. No booming was evident anywhere near the Duck Flats which have been identified as sensitive habitat. Oil had reached near the shoreline on the Port Valdez beach south of the Valdez Small Boat Harbor. It wasn't until sometime during the day Tuesday that any kind of effective exclusion boom was placed at the Duck Flats. Even so, strong currents running on and off the flats limited the effectiveness of the boom. Oil also had been found as far west as Andersen Bay at the west end of Port Valdez and in the Mineral Creek area on the north side west of town.

Over the next two days boom boats continued to chase slicks of oil, some of which came from what they called "burps" that continued to rise from under the ship. These were believed to be from oil trapped under the hull and released as the ship's attitude changed during lightering and deballasting. Divers used compressed air to push oil out from under the hull and this also released some oil. Several times, the containment boom around the ship was observed flat against the hull and this would have allowed oil escaping from the bottom to rise outside the boom.

British Petroleum personnel began arriving early Sunday morning and by Monday afternoon 40 persons had come to Valdez. Many of these were working position by position with their Alyeska counterparts and Tuesday afternoon BP assumed management of the spill response.

Cleanup efforts continued through the week mostly with the use of absorbents and the Valdez Star outside the ship booms and JBF and Marcos inside. The ship sailed around 10 p.m. Friday with orders for Portland, Oregon, but BP said pending ABS approval it might be sent to a foreign shipyard. On the way out of Port Valdez, the ship encountered problems with its gyro compass and this led to an overnight at the Knowles Head anchorage until repairs were effected.





## SUNDAY

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**EASTERN LION:** 269,164 deadweight tons; Capacity 2,088,672 barrels; Length 1,076; beam, 168. Cargo at time of spill, approximately 829,000 barrels.

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### SUNDAY MAY 22, 1994

0121 Observer notified by Scott Thompson of RCAC POVTS committee that a spill of 200 to 300 gallons had occurred at the Valdez Marine Terminal. The vessel involved was the Tank Ship Eastern Lion. Spill estimated at 20 barrels. SERVS was mounting a response including fishing vessels. At that time Scott indicated he didn't feel it was that big and to catch up on it in the morning. At this point I turned on the VHF radio and listened to the response traffic. In this time I gathered equipment and put all of the radio and video batteries on chargers. Upon realizing the fishing vessel callout I decided I had better go sooner rather than later and began gathering the rest of my gear.

From radio traffic I learned:

Some oil had escaped from the boom around the ship

Oil was reported between Berth 3 and shore.

A helicopter was scheduled to fly at first light to assess the amount of oil.

Divers were preparing to go down on the ship to ascertain the location of the leak.

0210 Observer arrived at the SERVS duty office.

From the duty officer, learned the following:

Occurred Saturday May 21

1758 The vessel had moored at Berth 5 at 2034 May 20. It had been in the process of deballasting and loading at the same time. At 1758 May 21 it stopped loading but continued deballasting, planning to resume loading at 2100. At this time approximately 829,000 barrels of North Slope Crude had been loaded. About the time the crew was preparing to resume loading a mate looked over the side and saw oil in the boom surrounding the ship.

ADEC was notified a few minutes after 2100.

2130 SERVS was notified by Alyeska OCC.

At this time the terminal skimmers already were under way to the scene and the Valdez Star was under way at 2122. Supervisor Vince Mitchell and SERVS oil spill manager John Baldrige were reporting and they asked that the near shore landing craft Krystal Sea be gotten under way.

2200 ERV Heritage Service was ordered to warm engines and prepare to deploy booms.

2208 The ERV Freedom Service which was returning from an escort and was directed to the scene at Berth 5.

2211 John Baldrige called to advise he was reporting to assess the situation.

2212 Skiff 12 was sent to assist. This is one of the SERVS work skiffs similar to a seine skiff but with a small house.

2221 Heritage Service reported it was under way from Buoy 1.

Four fishing vessels were called out.

**6 Eastern Lion Oil Spill May 21, 1994**

## SUNDAY

- 2227 Krystal Sea reported it was warming engines.
- 2305 Four more fishing vessels were called out.  
All ERVs in the port were ordered to prepare their booms for deployment.
- 2330 U.S. Coast Guard closed the port to traffic and established a 2,000 yard safety zone around Berth 5. The tank vessel Thompson Pass already was at Berth 3.
- 2349 FVs Alba II and Turning Point checked in.
- 2304 Predicted high tide.

### Occurred Sunday May 22:

At 0230 A SERVS crew reportedly was standing by the oil spill equipment containers at Solomon Gulch Hatchery. It was reported this crew had closed a boom that is kept around the hatchery's net pens during the season when fry are present. At this time all pink and chum fry had been released. About 900,000 silver salmon smolts were being held in one net pen.

### OTHER POINTS LEARNED AT THIS TIME:

The 12,000 barrel storage barge Allison Creek had been mobilized but no Transrec barges. There were two in the port at the time plus the near shore barge Energizer which was moored at a buoy less than half a mile from the spill site.

At this time SERVS On-water Commander Tim Corsini was at the duty office. He advised that crews would get going in the morning after an over flight and to get some sleep. Instead observer decided to go to the terminal emergency operations center.

### LEARNED FROM OTHER SOURCES:

The tank vessel Thompson Pass was at berth 3. At the time of the spill report it was preparing to sail. It had been de boomed and tugs were standing by. The ship was told there would be a two-hour delay. The berth boom was taken to the Eastern Lion to be used as a second boom around that ship. At about 2345 the ship was notified the port had been closed.

Dave Cobb, the Valdez fishing vessel administrator, reported he was notified by the city at 1015 and by Rich Long, the SERVS fishing vessel coordinator, about five minutes later. His first call was for four boats. The first of those departed Valdez Small Boat Harbor at 11:02

### MAY 22, 1994 SUNDAY

- 0245 Vessel reported finding a large patch of oil outside the boom right next to the ship.  
The EOC was reported manned and operating.
- 0247 A vessel reported having collected 1,500 gallons of liquid.
- 0319 Driving by the hatchery no one was visible around the connexes for oil spill equipment and in the dark could not ascertain whether or not the pen boom was closed. The second boom that was to run from east of the hatchery to the west side of Solomon Creek had not been deployed. There was an Alyeska vehicle in the parking lot at the hatchery office.
- 0329 From the parking lot at the Terminal Administration Building observed three ERVs with boom deployed

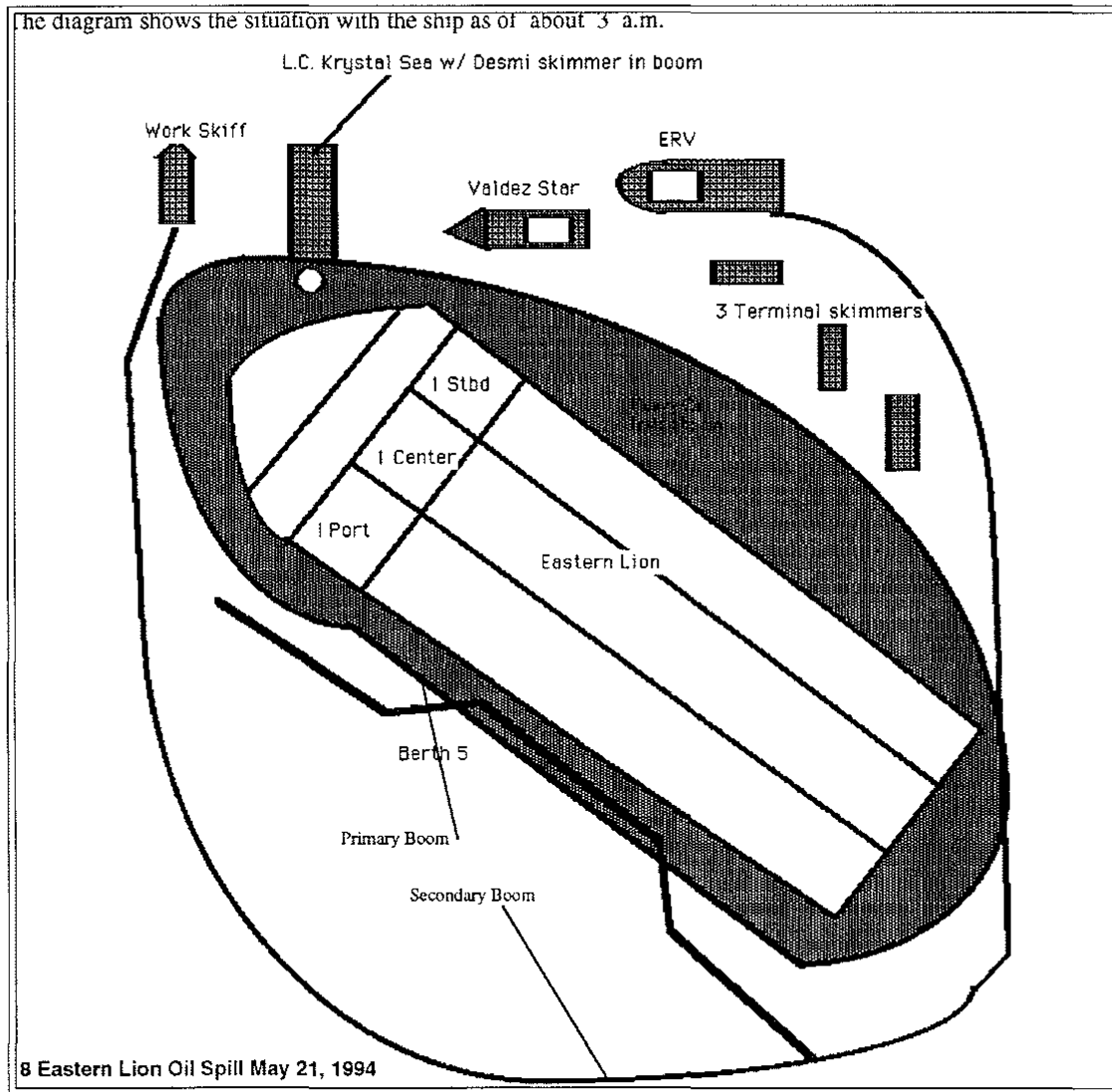
SUNDAY

and several fishing vessels. Identified the following fishing vessels either visually or from radio traffic. Sirocco II, Kristina, Glacier Island, Lady Sandra, Polecat, Evie, Turning Point, Alba II.

The Lady Sandra reported a sheen around it. Asked if it was black or rainbow the captain said there was no rainbow.

0330 Observer arrived at EOC.

It was reported there that at 0300 the size of the spill had been upgraded to 60 barrels with 5 barrels outside the boom. The ship still was leaking and they suspected the number 1 wing tanks. Oil was pumped from the two wing tanks into the center tank (All #1) There are five rows of tanks in the ship. See diagram below.



**SUNDAY**

0405 Observer was escorted aboard the Eastern Lion by SERVS oil spill manager John Baldrige. Heavy black oil was visible inside the primary boom around the ship with lighter patches visible within the second boom which at this time had been closed and the Valdez Star had begun skimming west of the ship's bow.

Steve Provant of ADEC was aboard and said there probably was shoreline impact on Saw Island which is a small island adjacent to the berth to the southwest. Mr. Provant also noted there was oil going through both booms at the west end to the port side of the bow. I observed this shortly thereafter and oil indeed was streaming through the boom with the current. This current apparently was more than 1 knot and entraining the oil under the boom.

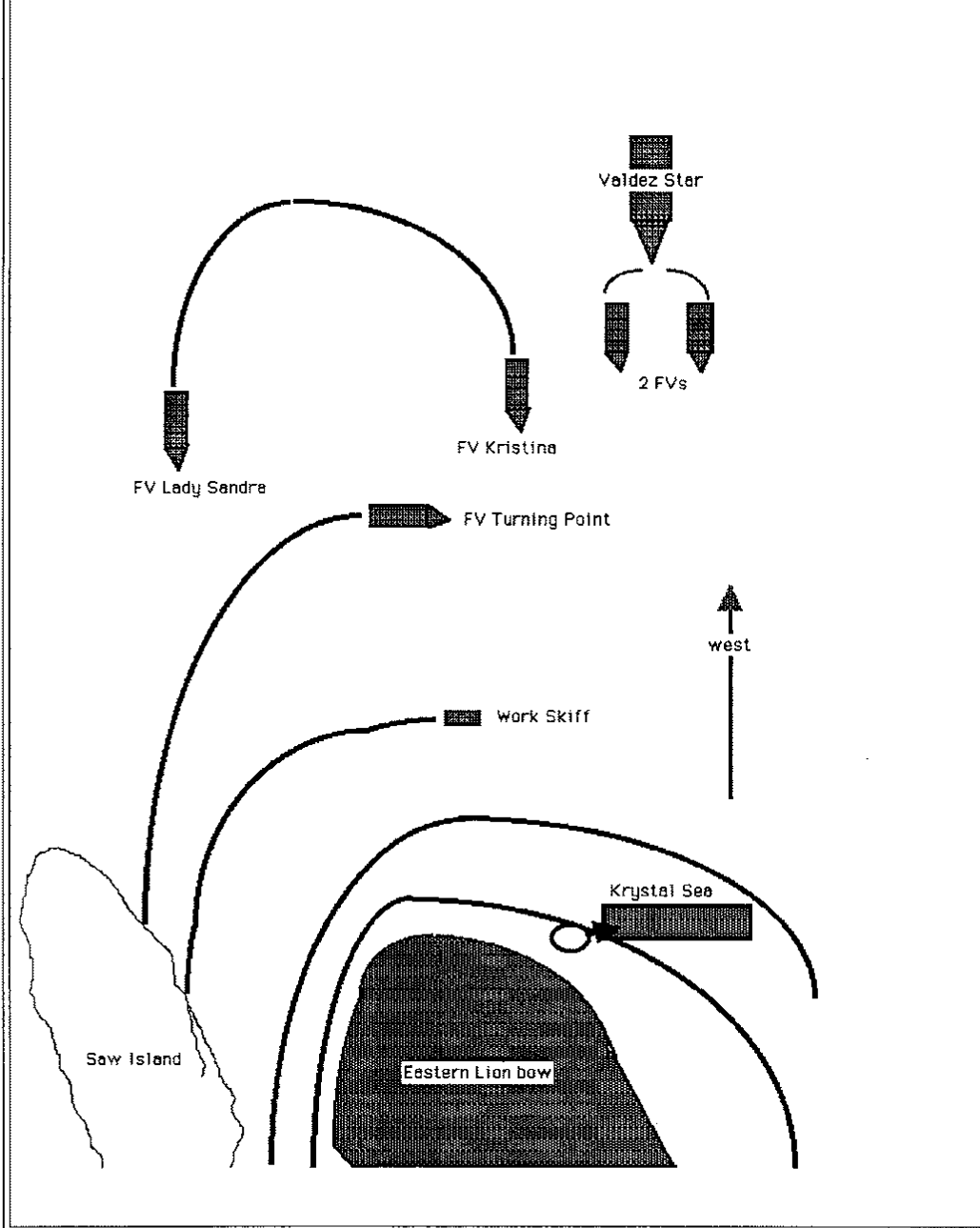
A JBF skimmer had begun unloading its recovered liquids to the Krystal Sea.

Divers reported having trouble locating the leak because of the amount of oil in the water.

The Krystal Sea had deployed a Desmi skimmer inside the primary boom and was skimming. It was reported the vessel crew first tried vertical rope mop skimmer but that it needed to be primed and didn't work that well. Then they went to the Desmi.

0411 The Krystal Sea took oil from other skimmers as well and would be full in approximately one hour. John Baldrige said he intended to set up a full Incident Command System structure.

0430 This diagram shows the booming and skimming configuration off the bow of the ship at this time:



10 Eastern Lion Oil Spill May 21, 1994

## SUNDAY

0500 Observer's presence on ship was questioned by Alyeska duty officer and had to leave. At this time there was heavy brown oil between the primary booms and some outside the outer boom on the shore side. Most of the booming and skimming activity was ahead of the ship to the west with two pairs of fishing vessels and booms working between berths 3 and 4.

0515 IC update.

1. Skimming efforts still were focused inside the boom.
2. Couldn't find oil east of Berth 3. The current set was to the west.
3. Some oil was visible on the island rocks.
4. The spill still was estimated a 60 barrels but that was expected to be upgraded after an over flight scheduled shortly.
5. 60 barrels of liquids had been collected so far.
6. Divers couldn't find anything on the port side of the ship and were moving to the starboard side. They reported indications of oil coming from starboard.
7. Tide was dropping and oil was coating the pilings and lower structures of Berth 5.
8. The ship was pumping the number 1 port and starboard tanks into the number 1 center tank.
9. Early atmospheric tests at water level showed 0 LEL and less than 0.1ppm of benzene.
10. There was a possibility of oiled sea birds.
11. A seal was reported swimming near the oil.

0544 Predicted low tide.

0549 The Krystal Sea reported oil moving in the opposite direction (this would have been east). The vessel needed to be repositioned.

0555 6 a.m. Shift briefing.

This briefing essentially repeated or confirmed the information above with the following additions:

1. The first estimate of the spill was 50 gallons. That was raised to 500 gallons and then 850.

The current estimate remained at 60 barrels.

2. An over flight identified a light to heavy sheen abeam the Thompson Pass at Berth 3

### DAY SHIFT OBJECTIVES:

1. Continue mop up.
2. Get word from the divers as to the source of the leak.
3. Teams will begin going after oil outside the booms using the helicopter and pairs of fishing vessels with absorbent booms.
4. Clean the pilings at the berth.
5. Cleaning of fishing vessels is being set up at the terminal small boat harbor.

Sharon Hillman of Alyeska reported:

Two biologists were responding to reports of oiled birds.

The oil hadn't impacted the shore yet but it will soon.

Respirators were worn at small boat levels.

EPA had been contacted to open the oil spill function at the ballast water treatment plant.

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LEL 0, Benzene less than 0.1 at water level.

Oil still was being transferred from wing tanks to Number 1 Center on the ship.

SERVS manager Jim McHale was reported to be in Cordova and arranging a flight to Valdez.

0728 The Valdez Star reported it had 75 to 100 gallons of liquid on board "all oil."

The Krystal sea reported they had lost a pin on a Desmi skimmer float and couldn't use the skimmer until it was replaced.

FVs Libra and Reflection were observed on scene.

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WEATHER: Overcast, light rain, temp 45-50, light wind, no seas. Current with a westerly set.

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0750 A call went out to all boats to report any oiled wildlife but not pick it up.

0822 A long deflection Ro-boom was being held perpendicular to the shoreline from the berth out into the port. The current was pushing the belly to westward. This boom was held by the ERV Liberty Service.

0825 The FV Sirocco II was holding a deflection boom off Saw Island.

0827 No activity was apparent aboard the near shore barge Energizer which was moored at Saw Island buoy within half a mile of the Eastern Lion.

A rope mop skimmer was visible on the deck of the landing craft Krystal Sea but this never was observed operating.

0830 The Krystal Sea reported moving to the barge Allison Creek to unload.

0840 RCAC observer was aboard the ERV Heritage Service which was towing a single Kepner boom attempting a "J" configuration with a Sea Skimmer 50 in the apex of the boom.

0848 Valdez Star reported it had a little over 100 gallons aboard, totally oil.

Heritage Service reported 79

Freedom Service reported 69

0850 Observed sheening west of Saw Island. In morning light, portions of the oil appeared a dark purple with rainbow along the edges.

0856 The Sea Skimmer 50 was way to the side of a large belly in the Kepner boom towed by the Heritage Service. With oil collecting the belly, the skimmer could not reach the oil.

At this time the SERVS on water commander described how the booms and skimmers should be configured however this was not followed on the Heritage.

0857 The ERV Pioneer Service which had recently arrived on scene reported its port Kepner boom was deployed and asked for instructions. It was ordered to join the formation with the Heritage and Freedom.

0900 Oil sheen, some of it thick was going by on both sides of the Heritage with no collection to the right (inshore). This was west of Saw Island.

At this point a helicopter observer was directing placement of the booms and spotting oil. It was flying back and forth across the whole area spotting as it went.

0927 The Liberty Service which had been holding deflection boom near Berth 5 reported it had its Vikoma Ocean boom deployed and asked for instructions. It was sent into the formation with the other three ERVs.

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At this time a wake was visible coming off the Heritage Sea Skimmer 50 indicating towing speed was too fast for effective booming and skimming.

- 0929 The helicopter reported oil coming out from under the ship and that a skimmer was right on it.
- 0930 The FV Polecat and a SERVS work skiff were towing deflection boom in from of the Valdez Star.
- 0933 The extent of oil was reported to four miles west of the ship and even with Berth 3 to the east.
- 0937 SERVS crew requested slower speeds for the Heritage because oil was going out under the boom.

A call came to get a skimmer into thick oil laying between the ship's containment boom and Saw Island.

The Heritage skiff had to be relieved in order to refuel.

0947 A work skiff was reported aground on rocks south of Saw Island.

0949 ERVs Heritage and Freedom began a 180° turn to the west.

1015 The turn was completed and booms reformed.

At this time a SERVS supervisor aboard the Liberty Service was named to be in charge of the ERVs in the formation.

1021 A skiff began to line the inside of the Kepner boom with absorbent boom.

1037 The Valdez Star was working in behind Saw Island. Three ERVs were working to the west. The Pioneer and Heritage were operating Sea Skimmer 50s but the Freedom Service did not. The Liberty was pulling into position with the formation and positioning its Vikoma Ocean Boom.

Oil to the east was reported as patchy. Light conditions made spotting the oil difficult until it was right next to the boat. What oil was visible showed as a light sheen.

1100 A work boat crew continued placing absorbent boom along the

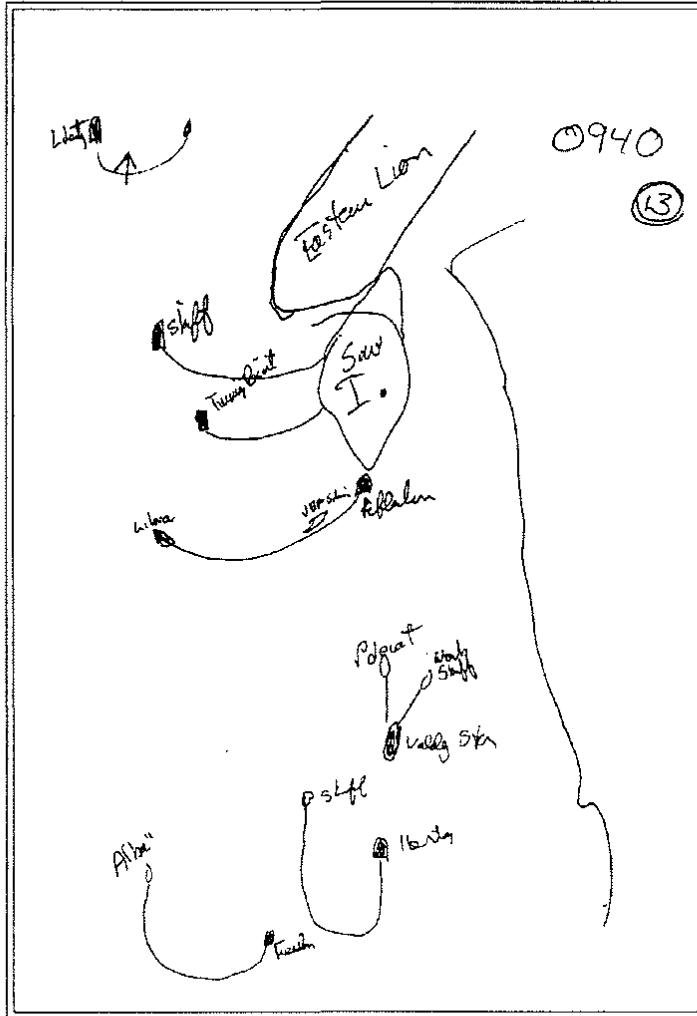
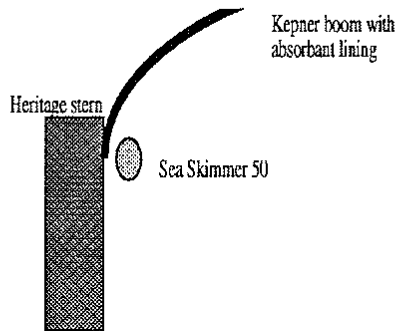


CHART SHOWS POSITION OF VESSELS WEST OF THE SHIP AT 0940.

## SUNDAY

- Kepner towed by the Heritage Service.
- 1103 The Helicopter returned to its position over the formations after refueling.  
The tanker Arco Fairbanks, which was to lighten the Eastern Lion, had rounded Entrance Island into Port Valdez.
- 1107 The Heritage boom was way out of position for the Sea Skimmer 50.



- 1120 The near shore supervisor called to realign all of the ERVs. He want then turned around heading toward Berth 5 from the west. The Pioneer was to be the boat closest to shore lined up on the heaviest of the oil. Each ERV was to fall into position slightly behind and off to the side of the one in front. The Heritage was the boat farthest out into Port Valdez. Very little oil was seen from this boat, mostly a few windrows. By the time this was accomplished, the boats were almost to Seven-Mile creek, about a mile and a half west of the terminal.  
Collected liquids were going into IMO tanks on the decks of the ERVs, not into the ship's tanks.  
The oil spill manager earlier had told vessels to give conservative reports of liquids recovered. He said he didn't want high unrealistic numbers. He said if people had to guess they should guess conservatively.
- 1124 The Pioneer already had turned and was reforming its boom. The Liberty was pulling into position and forming its boom.
- 1137 All the vessels had turned and the Freedom and Heritage still were adjusting their booms.
- 11:44 With the Heritage propeller pitch at 1/2 a foot and towing boom, there was a large bow in the boom and this speed was fast enough to create a bow wave in front of the skimmer that actually pushed oil away

## SUNDAY

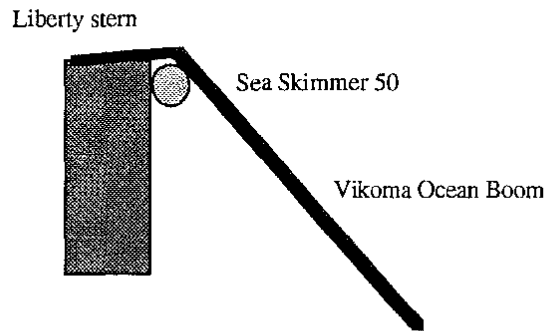
from the discs. This speed also caused entrainment under the boom.

After looking into the tank the Heritage crew estimated about 5 percent oil in the liquid and that was termed optimistic. The consensus was that this oil already was too thin for the Sea Skimmer 50.

1159 Predicted high tide.

1236 The absorbent boom that had been placed along the inside of the Kepner boom towed by the Heritage came loose and had bunched up around the skimmer preventing oil from reaching the discs. At this time the crew also noticed entrainment under the boom.

1244 The ERV formation was passing the bow of the Eastern Lion heading east. The ERV Liberty Service was observed with a boom and skimmer configuration very close to the ideal. (Diagram below and photo in comments)



1250 A cleaning station for boats was to be set up in the small boat harbor at the Alyeska terminal.

1257 The Arco Fairbanks was being brought into Berth 4, passing in front of the ERV formation.

### **Alyeska reported 412 gallons of recovered liquids**

1300 Task force update, the Liberty Service reported a total of 100 barrels with 20 percent oil. (See below the Liberty report day 3 on decommissioning.)

1307 The task force was moving easterly rapidly and currently abeam Berth 4.

1323 The Krystal Sea reported it was finished lightering to the Allison Creek. This unloading took almost five hours.

1330 The Krystal Sea was ordered to lighter the small skimmers. Told not to bother with Desmi skimmer because the oil was too thin.

1341 An order came through to establish the Liberty Service as the command center with the SERVS on-water commander, the Coast Guard and others. All communications were to be channeled through the

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- Liberty to the EOC where Jim McHale, SERVS manager, served as Operations Chief.
- 1348 ERVs were ordered into a 180° turn.
- 1356 At this point the FV Kristina was towing boom with the Heritage Service. This was the farthest out into the port of the ERVs. Both boats were seeing windrows of oil with the Kristina pointing out more to the north.
- 1400 The helicopter reported sheen at Allison Point, about 3/4 of a mile east of Berth 1.  
At this point the Heritage was about 3/4 of a mile offshore and seeing oil north of that about midway between Allison Point and Berth 1.  
Large globs of oil were reported near Saw Island.
- 1425 Three of the ERVs turned and began towing boom to the west. The Heritage because of continuing to see windrows of oil continued to the east.  
The Valdez Star was skimming between Berths 1 and 3.  
The Arco Fairbanks had just about completed berthing.
- 1432 A report came that a slick was moving half a mile west from Solomon Gulch Hatchery inshore in shallow water.
- 1437 At a call from SERVS near shore supervisor Steve Hood in the helicopter boats began rushing toward the hatchery. At this time there were approximately 900,000 silver salmon smolts in one net pen at the hatchery. All pink and chum salmon had been released April 29 or May 9. At this time a boom was closed around the net pens but a complete boom around the hatchery had not been placed. Sections of shore guardian boom were visible on the east side of the hatchery but not on the west.
- 1443 Strong easterly current was observed at this time. At one point an oil slick actually was observed moving faster than the boat. At this time there was no wind and the water was calm. (1443 to 1538 Videotape of hatchery protection effort.)
- 1447 The helicopter was hovering offshore near the hatchery to mark the leading edge of the oil.
- 1448 The Heritage Service continued on its easterly course toward the spot marked by the helicopter.
- 1448 A boat sent to the hatchery could not contact the shore crews and as a result the boat passed the net pens and went to the east toward that activity. Two other small boats carrying absorbent could not be reached by radio and simply drifted near the net pens. The helicopter finally had to land so Mr. Hood could begin equipment mobilization.
- 1503 At this point the oil was closer than 0.557 mile to the net pens estimated from ship's radar.
- 1504 Landing Craft Krystal Sea called saying it would bring absorbent boom to put around the net pens. It was coming from the Berth 3 area.
- 1510 Helicopter reported the heaviest concentration was almost to the net pens between where the helicopter was hovering and shore.
- 1511 The helicopter crew said the oil was in the net pens right now.
- 1513 The hatchery crew said they would make the preparations to move the net pens out of the area but this

## SUNDAY

would take 20 to 30 minutes.

At this time according to hatchery manager Ken Morgan two slicks of oil appeared within the net pen itself. He described these as about three feet in diameter. He said they appeared and then dissipated almost as fast. Some oil did appear on the surrounding materials. Mr. Morgan said the silvers only rose to the surface to feed and they refrained from feeding during the day. This was disputed by other biologists.

The helicopter still could not communicate with the two small work boats carrying absorbents.

- 1518 Contact finally was made with the two work boats and they were ordered to put their booms around the net pens.

Several boats were observed rushing boom to the hatchery.

- 1529 Wind in the afternoon sea breeze had reached approximately 9-12 knots.

- 1535 FV Sirocco II was towing absorbent boom in front of net pens.

A Grayling work boat was towing CSI boom away from the containers on the east side of the hatchery.

- 1538 A hatchery crew reached the net pens by boat to prepare for towing. At that time they reported oil touching one corner of the pen.

This pen also was protected by a salinity barrier. This is a sheet of polypropylene that hangs about four feet down into the water and

held down by heavy lead weights. Towing the pens away was the hatchery's first choice. The fish also could have been released.

By this time shore guardian had been laid from shore on the west side of the hatchery and a Grayling work boat was about two thirds of the way to connecting CSI boom from the eastern shore guardian to the western.

- 1540-1600 Heritage Service continued to tow boom in vicinity of hatchery. Crews worked to connect the booms around the perimeter of the hatchery waters.

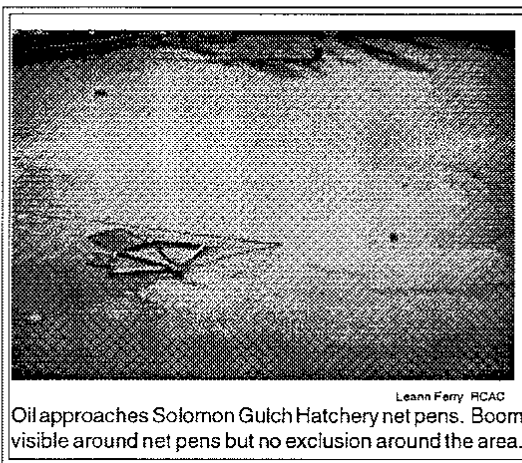
RCAC's Tom Sweeney reported oil on the beach at Allison Point.

- 1601 Private vessel landing craft Lucinda Rose arrived to help tow the net pen.

- 1604 Heritage Service was completing a turn back to the west and just forming its boom. Some oil was collected in the boom.

- 1615 Alyeska reported 625 gallons of recovered liquids.

- 1654 The Freedom Service while deploying its ocean boom with the FV Alaskan Spirit found thick oil just



Oil approaches Solomon Gulch Hatchery net pens. Boom visible around net pens but no exclusion around the area.

## SUNDAY - MONDAY

east of Allison Point.

1727 FVs Miss Carol and Centaur arrived from Cordova.

1742 Predicted low tide.

1748 ERVs were towing boom in formation to the west toward Allison Point. Most booms were out of shape with a large belly in the Kepner towed by the Heritage and the ocean boom between the Freedom and the Alaskan Spirit almost straight across, presenting a face perpendicular to the oil rather than angled diversion into a belly.

1830 Observer departed Heritage Service. Stopped at RCAC Valdez office for conference.

Throughout the rest of the evening observer monitored the response from shore by radio and from the highway ranging from the terminal to the container dock. Throughout this period and through the night, the response essentially consisted of the above described formations following windrows and spots of oil pointed out by helicopter until it became too dark for flying.

1100 Observer retired for evening.

2352 Predicted high tide.

### MONDAY MAY 23, 1994

**0300 Alyeska reported 1,095 in recovered liquids ( did not differentiate gallons or barrels)**

0534 Fishing vessels were sent to the islands west of the Valdez Container dock about 150 yards offshore where a slick had been spotted. Others were ordered to the head of the bay to begin sweeping to the west.

0548 Observed lines of sheen near inter tidal area at a small creek that enters Port Valdez just east of the road to the container terminal.

Obvious oil caught in a tide rip was moving inshore in this area

0550 At the Valdez Container Dock: Two fishing vessels were towing Kepner boom toward the islands west of the dock. Vessel operating lights were visible as far away as Andersen Bay at the southwest end of Port Valdez. No activity was visible east of the dock.

Tank Vessel Thompson Pass was still at Berth 3.

0615 The two fishing vessels working west of the container dock reported recovering a large (by the standards of this spill) amount of oil in the boom.

0635 Predicted low tide.

0641 Observed oil sheens around container dock including behind it where a sheen was moving through the passage. This sheen covered most of the water in this passage, about 100 feet wide and 2/3 the length of the container dock.

**0700 Alyeska reported 1,145 in recovered liquids ( did not differentiate gallons or barrels)**

0701 Observed and videotaped apparent oiling on an Arctic Tern.

0703 Informed RCAC office of the sheens and was put in touch with oil spill manager John Baldrige who asked for a detailed description of the location of the sheens.

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- 0716 Observed a harbor seal swimming in the oil behind the container dock.  
Continued a survey of shoreline around the container dock area.
- 0725 Two SERVS supervisors arrived to assess the oil at the container dock.  
The landing craft Krystal Sea was observed pumping from the boom held by the two boats west of the container dock.
- 0739 Observed two pairs of boats towing absorbent boom in the bight east of the container terminal.
- 0745 Observed some personnel from the Hartech company (the shoreline cleanup contractor) near the creek on the east side of the road to container dock.
- 0800 **Alyeska reported 1,151 in recovered liquids ( did not differentiate gallons or barrels)**
- 0806 Observed and reported light oil sheening in the inter tidal zone of beach at Hotel Hill just east of the Valdez Small Boat Harbor on the Port Valdez side of a point there.
- 0815 (Approximately) Report that absorbent boom was available at the container dock and Hartech was to bring people there to deploy it.
- 0820 Request made of EOC to obtain permits to go ashore for shoreline protection.
- 0910 Observer departed Valdez Small Boat Harbor in skiff with RCAC chairman Stan Stephens to tour the spill area. Permission to do this had been obtained from the Coast Guard and a general float plan was reported to the CG. Notified Coast Guard Cutter Midgett upon departure.
- 0920 Observed absorbent blanket material had been placed along the east side of the causeway to the container dock all the way along the open water leading to the Valdez Duck Flats. This boom was attached to the guard rails on the causeway and incoming current had it pressed against the pilings of the causeway. In at least two places the current had pushed this boom under water at the pilings and water was flowing over it. No tending crew for the boom was visible from the water, however there could have been people in the vicinity. Some oil discoloration was observed on this boom. Two small work boats were towing absorbent boom in a U near the causeway. CSI boom was being towed east from the Container Dock.
- 0950 Observed the boom around Solomon Gulch Hatchery. Two small work boats were towing absorbent boom along the main exclusion boom. One section of the main boom appeared twisted and had absorbent boom wrapped around it. One section of the CSI exclusion boom had sunk to the west of the net pens. This left an opening estimated at 10-20 feet. It was later learned that this was caused by a short anchor line that pulled the boom under water when the tide rose.
- 1015 FV Taku was holding deflection boom straight out from Berth 4.  
The Valdez Star was skimming between Saw Creek and 7-mile Creek.  
Noticed threadlike oil descending into the water from the surface slick.
- 1020 Observed crew cleaning the hull of the Thompson Pass still at Berth 3 with a steam cleaner.
- 1035 Video taped oiling along the hull of the Eastern Lion. The inner boom was flat against the hull of the ship with the outer boom about 10 feet away.  
A JBF skimmer was skimming inside the inner boom.  
A Lori Brush rope mop skimmer was working just outside the outer boom at the southwest corner.

## MONDAY

- A small work boat was changing out absorbents around the outer boom to the southwest. Fishing vessels were towing U booms west of the ship. At this time those vessels that had been observed toward Andersen Bay at the west end of the port had returned closer to the ship. Oiling was observed on the pilings of the berth to the extent of the rise and fall of the tide. Looked for oiling on rocks behind Saw Island and saw nothing obvious. One cormorant was observed on the rocks but flew away and appeared to be all right. It was not preening or giving any indications of having been oiled.
- 1050 (Approximate) Observed Freedom Service and FV Alaskan Spirit towing U boom in vicinity of Gold Creek on the north side of Port Valdez west of town. Some light sheens were observed in the water to the inshore side of the boom.
- 11:30 Approximate. Returned to Valdez Small Boat Harbor.  
Went to RCAC office for report.
- 1130 Alyeska reported 1,201 in recovered liquids ( did not differentiate gallons or barrels)**
- 1230 Observer walked about 300 yards of shoreline along Richardson Highway at the Valdez Duck Flats. This was close to extreme high tide and the water had risen to about 50 feet from the highway. Oil sheens were not apparent. Disturbing the material caught at the extent of the tide current released dime to quarter sized platelets of oil.
- 1257 Predicted high tide.
- 1430 Alyeska reported 1,208 in recovered liquids ( did not differentiate gallons or barrels)**
- 1520 A Lori Brush skimmer was working along the face of the container dock.  
A Hartech crew was loading shoreline cleanup materials and equipment aboard the landing craft Ocean State. Bert Hartley Jr. said he was to take the equipment to Saw Island.
- 1550 A crew was walking the shoreline east of Solomon Gulch Hatchery.  
An afternoon sea breeze was building and one supervisor called for a weather forecast. As this breeze built, oil was reported escaping from the booms around the ship.
- 1600 Observer visited British Petroleum office in Valdez. Rich Nielsen BP agent said BP personnel had been arriving since the first flight to Valdez Sunday morning, with the majority arriving Monday. BP had 40 persons in town, not counting those stationed in Valdez, as of this hour with more coming. All but five of those came from Anchorage with the others coming from Cleveland. At this time BP personnel were working man for man with their counterparts at Alyeska in preparation for taking over management of the response. Those with Alyeska counterparts were to remain at the terminal throughout the response while the others would work out of the BP offices on Egan Drive in town. NOTE: Simon Lisiecki, the BP lead agent for Valdez was in the hospital in Anchorage recovering from an operation at the time of the spill. Mr. Nielsen said he had been called out of the hospital and was working at a desk at BP's Anchorage response center.
- 1748 Boats and boom were moving to a point between Berths 3 and 1 to contain oil that escaped the boom around the ship.

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**MONDAY**

- 1834 Predicted low tide.
- 1900 ERV Heritage Service was ordered to start decontamination at the Crowley dock in the Alyeska terminal area in preparation for escorting the Thompson Pass. The Liberty and Freedom had recovered their booms and were standing by awaiting orders or decontamination.
- 1935 At the Container Terminal: The blanket type absorbent along the causeway to the terminal had been retrieved and was bagged awaiting pickup by an Alyeska truck. Another truck was parked at the terminal with a load of absorbent material.
- The only visible boom on the east side at this time was CSI boom held to eastward of the dock by the FV Sirocco II.

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At this time a squall was moving through Port Valdez with westerly winds reaching an estimated 20 knots and driving rain.

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- 1955 At Allison Point: With a helicopter overhead directing efforts, the Valdez Star and JBF skimmer were proceeding eastward to begin skimming on an oil slick. Two fishing vessels with the Star's deflection boom were moving into position ahead of the Star. The Tempest reported its boom breaking in the wind.
- Two fishing vessels were towing a Kepner boom in a U at about the stern of the tank ship Kenai at Berth 1.
- Another pair of fishing vessels with Kepner was in front of them.
- 2007 The Valdez Star had moved to an area east of Allison point and turned to face into the wind (west) to begin skimming.
- 2010 The two fishing vessels with Star's deflection boom pulled in front of the skimmer. The fishing vessels with the Kepner near the Kenai were allowing themselves to drift backward.
- At this point, observer contacted Solomon Gulch Hatchery to inform them that oil again was approaching the net pens.
- 2017 A report came that efforts were under way to boom the island west of the Container dock. A fishing vessel was sent there with absorbent boom and an attempt was made to place CSI there as well.
- The helicopter directing the Valdez Star called for the JBF skimmer to set up on the starboard quarter of the Star to skim on a slick of oil escaping the Star's deflection booms.
- There still was a noticeable chop on the water, but the wind was dropping.
- The Star suggested putting the Kepner booms behind on the leading edge.
- Two skiffs inside the boom at the hatchery had absorbent booms.
- Fishing vessels Polecat and Cape Kumlik were moving to obtain absorbent boom and set up behind the Star.
- FVs Evie and Phyllis Jean were ordered to close their Kepner boom and move to a position behind the Star.
- 2033 The Alaskan Spirit reported its boom had flattened behind it as the current changed.
- 2034 Helicopter flew to a position near the hatchery net pens.
- The helicopter observer predicted the oil would pass north of the net pens.

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MONDAY -TUESDAY

- 2100 The Star reported it had taken maybe 5 gallons in the previous hour. The captain also reported the line from a crab pot buoy was tangled in one of the deflection booms.  
The Alaskan Spirit was towing Kepner boom past the Star.  
The Polecat and Cape Kumlik came into position with absorbent U boom configuration behind the Star.
- 2105 Alaskan Spirit and reflection were pulling into position behind the Polecat and Cape Kumlik to form U with Kepner boom.  
Observer departed Allison Point for the hatchery.
- 2105-2205 Observer warned hatchery of oil bearing down on net pens. Manager Ken Morgan was contacted and he called Alyeska for assistance.
- 2205 Alaskan Spirit on leading edge of oil was now east of the hatchery. A small boat crew was bringing sections of Shore Guardian boom out around the CSI of the main boom around the hatchery. Another crew was deploying absorbent inside the boom.  
This effort or the trajectory of the oil prevented any from reaching the net pens on this occasion.
- 2300 Observer departed for evening.
- 2400 Alyeska reported 1,208 barrels of recovered liquids.**

TUESDAY MAY 24, 1994

- 0059 Predicted high tide.
- 0300 Alyeska reported 1,200 barrels of recovered liquids.**
- 0445 Alyeska reported a 1-2 barrel release from under the ship.
- 0545 Observer checked with Solomon Gulch Hatchery concerning oil in net pens. At this time hatchery personnel didn't believe there was any impact. They planned a thorough inspection at 0800  
The Alaskan Spirit in the vicinity east of the hatchery boom reported seeing no sheens around the boat.  
At the Container Dock vessels reported the tidal current was bellying the boom out and crews were experiencing trouble deploying and holding boom in the current.  
Fishing vessels were being called to the west of Saw island to tow booms.
- 0600 Alyeska reported 1,200 barrels of recovered liquids. Ready for disposal: 1,024 bags of solids/absorbents.**
- 0605 The tanker Kenai was away from Berth 1  
The Valdez Star was skimming near Berth 5.
- 0615 Vessels were working on slicks near Saw Island.
- 0616 The Valdez Star reported it had oil around both sides of the vessel.
- 0630 At the container dock: FV Libra was towing a long boom made up of three different varieties, CSI, Shore Guardian and a black boom, west from the container dock almost to the point at Hotel Hill. FV Sirocco II was holding a CSI boom east from the Container Dock.  
Scott Thompson reported a quantity of oil had come up from under the ship earlier in the morning and escaped the booms around the ship. He said the Valdez Star was on it right away and "had it under control." This explained the flurry of activity around the ship and west of Saw Island.

TUESDAY

- 0656 Supervisor called for continuing the process of booming off the Valdez Duck Flats.  
Most vessel activity was just to the west of Saw Island.  
Landing Craft Krystal Sea reported completing off loading.  
Vessels were booming east of Berth 3  
The SeaRiver Benecia was moored at Berth 3.
- 0700 Predicted low tide.
- 0701 Supervisor at Berth 5 called for more fishing vessels for booming.  
Three Lori Brush skimmers were reported deployed around Saw Island.  
Three Hartech persons were reported as having been up for a day and a half without relief.  
Radios were needed for personnel on the Lori Brushes.  
Two bowpickers were standing by with wildlife rescue gear aboard.
- 0720 Observer went to SERV S base for ride out to ERV at Saw Island area.
- 0723 Predicted low tide.
- 0735 Helicopter reported a continuing westerly set to the current despite the tide change at about 0700.  
The helicopter directed boom boats and skimmers to oil slicks.  
The helicopter reported black oil bubbling up from the western quarter of the ship (This would have been near the bow)
- 0801 The helicopter reported the current had slowed. This was judged by observing buoys. Helicopter said booming would have to be changed around soon to meet a reversal of the current with the tide.  
A fishing vessel was directed to Berth 1 to deploy absorbent boom.
- 0821 Several boats were reported having soiled absorbent within their collection booms and efforts were begun to replace it.
- 0830 Alyeska reported 1,211 barrels of recovered liquids. Ready for disposal: 1,050 bags of solids/absorbents.**
- 0845 Four fishing vessels reported beginning to change out the absorbent within their booms. All of these had to request personal protective equipment (PPE), particularly rain gear and gloves for handling the oiled material. This was provided from the Valdez Star. According to the plan, PPE, which is made of materials particularly resistant to the oil, is to be provided to fishing vessels before they enter an oiled area.
- 0920 Aboard the Liberty Service. Observer was informed the Liberty had been relieved and was preparing to head for the Crowley Dock at the terminal for cleaning. This is the one referred to as "Key West."
- 0924 Tidal currents were reported pushing water over the boom around the tanker near the stern.
- 0926 Two sections of Ro Boom around the ship were reported deflated near the stern. With tide coming in it was feared oil would pour out of the boom to the east. At this time the boom was still bowed to the west so the current was still pushing it in that direction.  
A fishing vessel reported hitting a rock behind Saw Island.  
In this time period a videotape was made as the Liberty moved past the entire area of activity around the

TUESDAY

- ship.
- 0934 The boom around the tanker was observed flat against the hull on the starboard side.
- 0950 Liberty Service docked at the terminal "Key West" dock.  
From this position, observer was able to see the stern of the Eastern Lion and activity to the north of the ship.
- 1003 A skiff was reported in the area taking water samples.
- 1030 The helicopter ordered the Lori Brushes out from behind Saw Island to the buoys on the western end of the ship. Black oil was reported behind the collection boom.  
More fishing vessels requested PPE to pick up soiled boom.
- 1038 The Valdez Star was skimming directly east of the stern of the ship almost against the boom.
- 1116 The Liberty Service crew measured liquids in its collection tank. It was reported 2 feet, 5 inches deep in the tank and the mate indicated the oil was between a half of an inch and an inch deep at the top. From this the vessel supervisor estimated 1,000 gallons in the tank. At 1300 Sunday the vessel had reported 100 barrels aboard (420 gallons) with 20 per cent oil.
- 1130 Alyeska reported 1,212 barrels of recovered liquids. Ready for disposal: 1,117 bags of solids/absorbents.**
- 1153 Fishing vessels began holding the containment boom away from the ship and lining it with absorbent. The Valdez Star remained in position near the stern.  
Observer departed Liberty Service on Monarch work boat.
- 1247 At Solomon Gulch Hatchery. One section of the CSI portion of the outer boom had small waves washing over it. The booming was lined with absorbent.  
Observer returned to SERVS base, visited the Valdez RCAC base and then went home to begin typing notes.
- 1352 Predicted high tide.
- 1430 Alyeska reported 1,213 barrels of recovered liquids. Ready for disposal: 1,201 bags of solids/absorbents.**
- 1500 Management of response was reported assumed by British Petroleum.
- 1738 Report came that no new sheens were coming from the Eastern Lion.
- 1922 Predicted low tide.
- 1940 One section of Shore Guardian boom west of the hatchery was deflated.
- 2000 On the east side of the Container Terminal: A boom had been placed from shore to the container area landfill. This had sections of Shore Guardian at both ends and CSI floating between. It boomed off the water passage under the causeway.  
On the west side CSI had been placed from the dock all the way across to the point at Hotel Hill with sections of Shore Guardian at the Hotel Hill end.

WEDNESDAY

Boom boats around the ship were reporting finding little oil in their booms.

WEDNESDAY MAY 25, 1994

- 0127 Predicted high tide.
- 0630 Shore Guardian boom at the west side of the hatchery remained deflated.  
A Lori Brush was reported hung up on rocks near Saw Island.
- 0640 West of Saw Island:  
Valdez Star was skimming a few hundred yards west of the Eastern Lion bow.  
Four pairs of fishing vessels were towing U booms to the west of the Star.  
Two pairs of fishing vessels were towing U booms east about abeam of Berth 4.  
With the activity to the west observer guessed there was a release from under the ship earlier.
- 0650 Observer toured EOC conversing with members of BP response team. One suggestion came that communities have available a list of local suppliers for a response. As much as possible BP would prefer to buy from locals but had difficulty finding suppliers. Valdez was a little better because BP maintains an office here.
- 0719 Reported divers had completed their work under the ship about 20 minutes previously. They had been using compressed air to blow remaining oil caught in pockets under the ship. Reported a small release had occurred during this operation.
- 0735 Supervisor called for absorbent sweeps to be placed all the way around. And, to hurry.
- 0739 Helicopter reported a majority of the sheening was coming up on the port side of the ship and going to the back of the boom, pushing against the primary boom. The call came again for absorbents to be placed in the path of the oil.
- 0758 At Solomon Gulch Hatchery: A two sections of Shore Guardian boom on the east side of the hatchery were deflated, one in the water tubes and the other in the air tube.
- 0800 At the Container Terminal: Boom on the west side of the dock that stretched to the point at Hotel Hill had beached for most of its length at low tide. A few sections of Shore Guardian were laid from the Hotel Hill end but most of it was CSI.
- 0808 Calls were made for skimmers at the east end of the boom around the ship.
- 0810 Lori Brush skimmer Number 1 was reported broken down.  
Predicted low tide.
- 0825 The tanker Keystone Canyon was away from the dock departing.  
Observer returned for conference at RCAC Valdez office, then home to continue work on report.
- 0900 BP reported 1,214 barrels of recovered liquids. Ready for disposal: 1,967 bags of solids/absorbents.**
- 1100 Valdez Star was called to the Key West dock to begin cleaning the bottom.
- 1444 Predicted high tide.
- 1500 Helicopter reported several discharges coming up from under the ship.
- 1550 Divers were continuing with the operation of blowing away pockets of oil under the ship.  
SERVS personnel on the ship's deck and in the helicopter continued directing the boom and skimming

Eastern Lion Oil Spill May 21, 1994 25

THURSDAY

vessels to slicks that escaped the ship's booms.

A light afternoon sea breeze came up.

2010 Predicted high tide.

**THURSDAY MAY 26, 1994**

0215 Predicted high tide (14.3 feet)

0845 At the Pipeline Terminal:

A third layer of boom had been placed around the ship.

Valdez Star was standing by abeam of the stern of the ship but not skimming.

Two pairs of fishing vessels were towing U booms west of the berth. FVs Lady Sandra and Evie were in close to Saw Island, two others were farther back about 1/4 of a mile.

The FV Taku was holding one end of an absorbent sweep near the west point of the island but the other end of the boom was obscured behind the island.

Fishing vessels and the helicopter were reporting sheens to the west of the ship.

Lori Brush skimmers were visible working on the sheens.

Some fishing vessels were allowed to trade out with others in order to rest and resupply.

A least two fishing vessels were holding the outer containment boom away from the ship.

Small work boats were towing absorbent booms close to Saw Island.

Sunset II (dive boat) was inside the boom.

The boom was being taken away from the Arco Fairbanks (the ship the Eastern Lion was lightered to) in preparation for a 1000 sailing.

Preparations were being made for a hull inspection of the Eastern Lion.

0857 Predicted low tide (-3.6 feet)

**0900 BP reported 1,366 barrels of recovered liquids. Ready for disposal: 2,615 bags of solids/absorbents.**

0903 Coast Guard demanded a full hull inspection rather than just the forward portion where the leak was suspected to be.

The dive crew reported divers probably couldn't go back into the water until afternoon.

The terminal skimmers, 2 JBFs, 1 Marco Class 7 and one Class 5 were being prepared for decontamination. Sent to a point inside the outer boom and boomed off with absorbent.

0900 Briefing and Situation Update:

Lori brush skimmers were being taken out of service and would be used as platforms for the hull cleaning

Operations helicopter would follow the Arco Fairbanks to watch for sheens.

Tactical operations for the next period:

Planned to continue with what existed

Maintain boats inside the booms while cleaning the hull

Continue with booming on Duck Flats and Hatchery.

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## THURSDAY-FRIDAY

Alan Duggins, the BP operations director said all of the oil had been taken out of the ship and put aboard the Arco Fairbanks. He said the Fairbanks' tanks had been topped off from the terminal. Earlier it had been reported the Eastern Lion cargo was 10,000 barrels more than the Fairbanks could hold.

In response to a question the BP logistics chief said the supply of absorbent materials was getting thin. Steve Hood, the SERVS nearshore supervisor, said they were running low on sweeps but had plenty of pad material and sausage booms.

BP was in the process of obtaining the following:

Item	Amount	ETA
Absorbent Sweep	2,250 bales (100' to a bale)	Unknown
Pom Pon	491 bales (30 bags to a bale)	1700 5/26
Viscous Sweep	200 bales	1700 5/26
Absorbent boom	2 Connexes	2400 5/26
Kepner Sea Curtain boom*	3,000 feet	5 weeks
Kepner Harbor Boom**	4,000 feet	6 days

\* This was to replace oiled boom on the ERV Freedom Service in order to bring her into compliance to do tanker escorts. SERVS said enough boom was available to piece together an adequate amount to allow the Freedom to escort.

\*\* To replace boom at Solomon Gulch Hatchery.

0930 Over flights were showing few or no sheens outside the ship booms

A call was made to send a river boat to tend boom at the hatchery. On the low tide, boats near shore were trapped in a tidal pool.

Observer returned home to continue work on report while monitoring radios.

1533 Predicted high tide.

1400-1700 Attended debriefing with RCAC staff.

2059 Predicted low tide.

### FRIDAY MAY 27, 1994

Throughout this day, the operation began to clean and decommission the various vessels involved in the spill.

**0900 BP reported 1,366 barrels of recovered liquids. Ready for disposal: 2,898 bags of solids/absorbents. 252 drums of heavy oily solids.**

The Eastern Lion was scheduled to leave the Berth at 1400 and move out into the port. There the hull was to be cleaned in places that couldn't be reached while the ship was at the berth. A "burp" of oil came up from under the ship on leaving the berth, but reportedly skimmers and booms were on it quickly and retrieved most of it. Pending inspections by ADEC and the US Coast Guard it was scheduled to depart around 1830. Two helicopters were dispatched to follow it watching for sheens and the Valdez Star also was scheduled to follow it out of the port. The ship was observed in the port shortly after 1900 still standing off Berth 5. At this time it was attended by at least four fishing vessels holding booms, the Valdez Star,

an ERV and a tug. Participants said a spot of black oil came up from under the ship when it moved. Fishing vessels with absorbents were right on the oil and a vessel operator directly behind the first boom said nothing passed the boom. Shortly before 2200 it was observed steaming westward in Port Valdez. Right around 2200 it was observed turning around having reported the loss of its Gyro compass. BP agent Capt. Simon Liesecki was aboard. The ship was reported later at Knowles Head anchorage awaiting a technician to repair the gyro. The ship was reported off the Queen Charlotte Islands Monday May 30.

BP sources said the ship would sail with orders for the shipyard at Portland, Oregon. However, the owners were awaiting approval from the American Bureau of Shipping and if that was received the ship was to be sent to a foreign port. Which port was not indicated. Later it was reported the ship sailed with Anacortes, Washington as a destination.

During the afternoon BP planned to close own its incident command structure and go to what they called "project mode." Company officials said they expected to have a crew remain in Valdez for at least three



weeks.

**VESSELS INVOLVED:**

**Fishing vessels:**

**From Valdez**

Alaskan Spirit	Alba II	Cape Kumlik
Evie	Glacier Island	Kristina
Lady Sandra	Libra	Polecat
Reflection	Sirocco II	St. Andrew

**From Cordova**

Alaska Lady	Centaurus	Cheryl Ann
Miss carroll	Monde Uni	Ravens Child
Hel N I	Bligh Reef	Cat Balou
Miss Kayley	Crystal Dawn	My Prime Time

**From Tatitlek**

Phyllis Jean

**ERVs** Pioneer Service, Heritage Service, Liberty Service, Freedom Service

**Skimmers:** Valdez Star, 2 JBF, 2 Marco

**Landing Craft:** Krystal Sea, Ocean State, one other

**Storage Barge:** Allison Creek.

**Aircraft:** 1 helicopter

**Miscellaneous:** one dive boat; one charter passenger vessel; several work boats, Monarchs, Graylings, work

## OBSERVATIONS AND COMMENTS

### A note on comments.

The comments and observations below are heavy with criticism. They must be taken in the context that this was a relatively small spill that separated very quickly into light sheens that are difficult to recover. Absorbent materials worked well on these sheens where some of the heavier duty skimmers in the Alyeska/SERVS inventory would have pumped mostly water. While the comments highlight areas where there could have been improvements, the comments are not offered simply to find fault with the Alyeska response, but to point out areas where response to future spills could be improved.

skiffs and river boats.

### SPILL ASSESSMENT AND RESPONSE STRATEGY

Initially this spill was assessed as 50 gallons. This grew to 20 barrels, 60 barrels and then 200 barrels overnight. Response strategy appeared to have been based on the lower estimates and as a result certain pieces of equipment were not brought to bear on the spill.

1. **Transrec Barges.** There were two Transrec barges available in Port Valdez, yet neither was used during the cleanup. While oil was thick inside the booms around the ship one of these could have been placed next to the boom with the large-volume Transrec skimmers inside the boom and caught a good deal of oil. This also was an opportunity to test the Transrec 350 skimmer in cold water with North Slope crude oil. SERVS has trained in this procedure. REF: Drill report number 223 Skim 93 14, dated May 17, 1993.

2. **Response strategy.** This spill occurred in what has to be considered the near shore environment, yet the Near Shore Contingency Plan was never used. Over the past two years that plan was developed and SERVS personnel and fishing vessel operators have been trained in near shore strategies and equipment. The near shore barge Energizer which according to the plan should have had almost 15,000 feet of boom and several skimmers suited to near shore operations aboard was never used, though it was moored less than half a mile from the Eastern Lion at the time of the discharge. This spill was particularly suited to the near shore strategy of strike teams and small collection units as the oil, once it escaped the primary booming, quickly separated into slicks and windrows. In the near shore plan fishing vessels with shorter lengths of boom collect oil and hold it while another fishing vessel brings a small barge to the boom and skims the oil out of it. No evidence of using the strategies in the near shore plan was observed with the possible exception of the Landing Craft Krystal Sea, which deployed its rope mop skimmer and when that didn't function too well, a Desmi skimmer that did. Fishing vessels did take some Ro boom from the Krystal Sea. This spill provided an opportunity to test the near shore techniques and equipment in real oil.

Citation: PWS Nearshore Oil Spill Response Plan, Section 3.2.1; "Nearshore free oil recovery activities have been designed for fragmented oil rafts, slicks and sheens that have escaped...initial collection activities."

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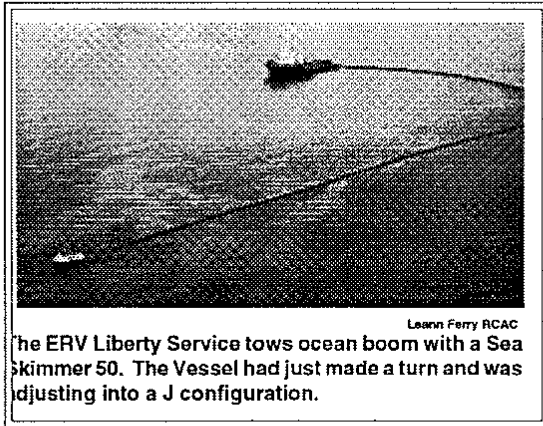
This describes the oil spill that occurred.

#### **BOOM CONFIGURATIONS:**

**At the ship:** During the early hours oil slipped through the two containment booms around the ship at a steady pace. This was particularly visible in the southwest corner of the boom off the port bow. One side of the boom running from east to west gave an acceptable angle to the tide of less than 20 degrees. However the boom kinked at a tie point either to the berth or Saw Island and the side running south to north off this kink was almost perpendicular to the current causing entrainment and what looked like flow-through at a connection point between sections of boom. In addition to configuring this boom properly, more layers of boom could have been placed around the ship to capture oil escaping the first two. The Barge Energizer was sitting less than half a mile away with almost 3 miles of boom on board.

**Citation:** Alyeska Terminal Oil Spill Contingency Plan: Section 1.6.9.1 "In marine spills that occur outside a boomed off area, the first priority is to deploy containment booms as quickly as possible as close to the source as possible so that the boom will contain as much oil as possible. This can be done using:

1) Pre-staged boom on the flat deck barge stationed at the single barge mooring point to the west of Berth No. 5.



2) Pre-stage 10x16-inch boom stored in Conex trailers located near the Small Boat Harbor.

3) Non-vessel dedicated, in-water boom at one or more of the berths."

In a subsequent paragraph the plan speaks to oil escaping primary booming by 1 capturing oil escaping from the primary containment area, and establishing secondary containment zones downstream from the primary containment zone.

This plan version was dated Nov. 1, 1993.

**At Solomon Gulch Hatchery:** The boom around the net pens at the hatchery is configured in a rough diamond shape with one point of the diamond pointing

to the west. Oil was observed flowing along the boom on the northern section effectively diverted away from the net pens. However the southern leg presented a face of up to an 80-degree angle to the current direction and oil slipped past this leg, entering the net pen area. By watching this carefully, the boom could have been adjusted to deflect the oil more effectively.

**Towed by vessels:** The ERVs deployed booms and Sea Skimmer 50s to collect and skim oil. Of three of these deployments, only one, the Liberty Service, configured its boom for the highest efficiency. SERVS had held a drill just the Friday before the spill with the Freedom Service deploying a Sea Skimmer 50 in which the most effective booming was with the Vikoma Ocean boom drawn flat across the stern of the vessel and then towed forward in a V with a work skiff or fishing vessel.

With that configuration, the skimmer slides back into a pocket between the boom and the boat where oil will collect the thickest. The Heritage Service and Pioneer Service both used Kepner boom tied to the same side of the vessel as the skimmer leaving an opening between boom and boat. In addition for the most part these vessels had large bellies in their booms collecting the largest concentrations of oil far away from the skimmer. The observer was not able to check the speeds on the other two vessels, but the Heritage towed at speeds fast enough to entrain oil under the boom and to raise a bow wave on the skimmer that also pushed oil away. The SERVS on-water commander told the boats to use configurations similar to that of the Liberty but this was not done.

REF Drill Report: 221 Skim 94 09 dated April 30, 1994; 223 DEFL/CONT 93 06, dated March 3, 1993 and an upcoming report on a Sea Skimmer exercise with the Freedom Service Friday May 20, 1994.

#### **HATCHERY PROTECTION:**

The permanent boom around Solomon Gulch hatchery net pens was closed relatively early. However the main exclusion boom that is supposed to go all the way around the hatchery area from well to the east of the hatchery to west of Solomon Creek, was not placed until oil already had reached the net pens at 1511. RCAC video tape shows this boom being drawn in place at 1538 Sunday after a helicopter spotter already had reported oil at the net pens. Boom for this procedure is located in connex containers at the hatchery. Twice since the spill occurred crews were sent to do this booming but each time they were diverted.

RCAC in the past has insisted that booming of the hatchery should be an automatic operation any time oil is spilled in Port Valdez, but 18 hours after the spill it still had not been done.

A salinity barrier placed as normal procedure on the net pens probably prevented more oil from reaching inside the pen. This is a four-foot deep sheet of polyethylene held down in the water by "cannon balls." The hatchery crew added more cannon balls early in the day to make sure the barrier did not float up. The hatchery crew after 1500 came out to prepare to tow the net pen away and a volunteer landing craft showed up to tow it. The lash up for towing was expected to take 20 to 30 minutes. However, with the oil spreading the way it was and a towing speed of one knot, it's unlikely the net pens could have been taken anywhere safe from the oil at this point. As an alternative, the fish could have been released but this would have been about three weeks early decreasing their chances of survival in the ocean.

Over the course of the week, hatchery personnel said there were small amounts of oil in the pens most of the time.

REF: Drill report dated Oct. 31, 1992 on a major drill inside the port, Oct. 20-21, recommendations section specifically addresses hatchery protection.

**Below is a specific list of RCAC comments on hatchery protection after the October 20, 1992 drill and a hatchery protection exercise Nov. 21, 1992**

*"In this exercise, many of the issues raised after the Oct. 20-21 drill were addressed. In the course of this exercise, it was determined the following would be needed for adequate hatchery protection: 6 SERVS work personnel minimum. These all need to be trained in deployment of hatchery equipment.*

*2 river boats to tow boom in shallow water. SERVS does not currently have river boats, so these have to come from the terminal. This was arranged ahead of time for this exercise.*

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1-2 work boats. These can come from the marine terminal or SERVS.

1 Inflatable needed to haul supplies from the connexes to the work boats. Available from SERVS.

1 tracked vehicle for towing boom across tidal flats at low tide. Available at terminal.

1 flatbed truck to haul boom and other supplies to shoreline mooring points. Available at SERVS base.

Shoreline mooring of boom proved to be the major problem encountered in this exercise. With a 13.4-foot high tide, permanently fixed moorings on both sides of the hatchery were under water at the time of the drill. On the west side of the hatchery, boom was attached to a rock that showed above high water, but on the east side, it was attached to the roadside guard rail. When the tide dropped, the boom bridged across rocks and in places was two feet above the water or beach. In addition, the shore guardian boom was in danger of tearing either from the weight of the water in the tubes or from abrasion on the rocks.

The high tide aided in deploying the CSI boom by allowing the river boats to bring the CSI boom close to shore anchoring points, however, Shore Guardian didn't get deployed until the tide went out and thus had to be filled from dry land. The support tubes were filled with fresh water raising some fear of freezing in the tubes.

Boom maintenance also was monitored. Two hours after the initial deployment had been completed, observers found large gaps between boom and shore on the east side of the hatchery. Responsible personnel were located and then participated in a discussion on how to maintain booms once they are in place.

*COMMENT:* This drill addressed several of the points raised after the October drill, however the following points need to be addressed:

1. Automatic hatchery protection activation in case of a significant spill in Port Valdez.
2. Dedicated river boats for deploying the boom."

**VALDEZ DUCK FLATS PROTECTION:** The Duck Flats have been recognized as one of the most environmentally sensitive areas in Port Valdez. Besides providing habitat for flocks of nesting ducks, the flats also include a valuable salmon stream. In addition this spill occurred during the nesting season for a large number of Arctic Terns who were seen feeding in oiled waters. The Duck Flats also have been mentioned as a place that should be protected automatically with a discharge of oil in Port Valdez.

When oil reached the ocean perimeter of the flats by early on the second day (Monday) no booming had been attempted. During that day absorbent barriers were placed along a causeway protecting the eastern entrance to the flats, nothing was visible across the west opening into the flats. Over the course of that day there was some deflection booming attempted by boats and some absorbent sweeping. It wasn't until sometime between 0630 and 2000 Tuesday effective exclusion booming was placed across the water entries to the Duck Flats. Even then, strong currents running on and off the flats limited the effectiveness of the booms.

**BOOM STRATEGIES:**

At times with strong currents associated with the larger tides of this period oil obviously was entraining under stationary booms. On the Duck Flats the tidal current actually tore the eye bolt out of a CSI boom connection. SERVS might consider looking at fast-water booming techniques for these areas of higher current strength.

**BOOM TENDING:**

**At the ship:** At several observation times, the containment boom around the Eastern Lion was laying flat

against the hull of the ship. During this period several releases of oil came up from under the ship. The boom against the hull would allow any oil coming up from under the ship to rise outside the boom. On the inshore side the boom was held to pilings on the berth and stayed in position. At times fishing vessels were used to hold the offshore side of the boom away from the ship.

**At the hatchery:** On at least two occasions different sections of shore guardian booms were observed deflated. Monday one section of boom had been pulled underwater due to a short anchor line placed at low tide. All of these were observed corrected later, but how long they remained in that condition is unknown.

**Duck Flats:** After shore guardian was placed near the container dock, a section of it was observed deflated. This was corrected some time later

Boom tending, while boring duty, is one of the most important aspects of protecting areas from oil. Particularly in the strong tides running at this time of year it takes constant attention and this attention was not always evident. (See report comments on hatchery protection above)

**HELICOPTER OBSERVATIONS:**

While this spill was confined to a relatively small area there were times when more than one helicopter would have helped to direct vessel activities. Toward the end of the second day (Monday) activities had spread from the Container Dock to Anderson Bay and Mineral Creek, stretching the limits of a helicopter with a two-hour fuel supply. The helicopter observations proved effective in guiding boats to slicks and configuring booms. Without the helicopter oil might not have been spotted near the hatchery Sunday, leading to much heavier oiling. One fisherman said it seemed like every time entrainment was coming out of his boom, "the helicopter was right on us telling us to slow down."

**PERMIT APPLICATIONS:**

At 0600 Sunday morning an Alyeska environmental official said in a shift briefing there would be shoreline impact. It wasn't until 0820 Monday morning when oil was visible going ashore east of the Container Terminal, that the permitting process to work ashore was begun.

**TIDES:** This spill occurred during a period of extreme tides with the high building to 14.3 feet Wednesday the 25th and the low to -3.6 the same day. This is at the high end of the tidal range in Port Valdez.

**FISHING VESSEL RESPONSE:** Fishing vessels in Valdez were called out first about 2220 and the first boat checked out of the harbor about 45 minutes later with most of the rest of the first eight joining within an hour. Six vessels responded from Cordova reaching Valdez around 1730 Sunday. These included two that left behind lucrative tendering contracts on the Copper River Flats. One Valdez boat owned by a Seattle area resident was out of Valdez harbor with the first group and the owner was on the boat Monday morning. Vessels remained on scene through most of the week with the largest number decommissioned Friday and Saturday.

**SERVS RESPONSE:** The SERVS duty officer was notified approximately half an hour after the incident report. Half an hour after that the ERV Heritage Service was ordered to warm its engines. Eight minutes after that the Freedom Service, returning from an escort, but position unknown, was ordered to the scene. One hour and 21 minutes after the report, the Heritage was ordered to get under way. At that time it was a little over three

miles from the Eastern Lion. At two hours and five minutes after the incident report all ERVs in the port were ordered to have their booms ready for deployment.

Time from report (hr/min)	Item
000	Oil reported
0:30	SERVS notified
1:00	Heritage told to warm engines
1:08	Freedom told to report to scene
1:20	Fishing vessels requested
1:21	Heritage ordered under way
2:03	First fishing vessel departed harbor
2:05	All ERVs ordered to ready booms
	More fishing vessels requested

**HATCHERY RESPONSE:** While the main hatchery protection boom should have been placed earlier, once oil near the hatchery was spotted, response was quick. Steve Hood, the SERVS near shore supervisor who was in the helicopter, recognized the need, demanded quick response and got vessels moving with boom to the hatchery. He even landed to mobilize crews unavailable by radio.

**VALDEZ STAR:** The Valdez Star seemed particularly suited to this kind of spill. It remained on scene skimming where required through the entire response and its Captain Sonny Madden aided in directing boats to slicks the Star was missing. While the collected quantities reported by the Star were well below its nameplate expectations, what the vessel did collect reportedly included a high percentage of oil.

**RECOVERY REPORTS:** Word was passed early to make precise recovery quantity reports. Estimates were to be conservative. Although one vessel did report the standard 20 per cent oil which proved otherwise later, most reports appeared to be a fair quantity.

**AGENCY NOTIFICATION:** Notification of Alaska Department of Environmental Conservation and the U.S. Coast Guard came within minutes after the spill was discovered. RCAC was notified through indirect channels, then officially by British Petroleum around 0245. No formal notification came to RCAC from Alyeska or SERVS

**COOPERATION AND ACCESS:** Cooperation with RCAC by the operation managers was easily forthcoming. John Baldrige in particular made sure the RCAC spill observer was briefed on the situation and escorted the observer to the ship. RCAC had access to all operations and SERVS found ways to give transport when the situation allowed. For the most part meetings by Alyeska and BP were open and printed materials available. There were only two exceptions to this:

1. RCAC observer was ordered off the ship by an Alyeska supervisor. Once the observer's duties and obligations were explained this was resolved.
2. In a tour of the response area by skiff, the U.S. Coast Guard threatened to bring the RCAC observer and the RCAC chairman up on charges for violating the security zone around operations. This was after permission had been requested and received and notification given upon departure from the small boat harbor.

Later the Coast Guard apologized for the incident and Alyeska President David Pritchard assured RCAC chairman Stan Stephens that the RCAC observers had been well within their purview.

**BP RESPONSE:** The British Petroleum response was quick and decisive. While questions remain as to responsibility for the spill because BP does not own the ship, BP mounted a response equal to or in excess of the need generated by the spill. Personnel arrived in Valdez as early as 0730 Sunday and by Monday afternoon 40 persons including five from BP's Cleveland headquarters were on scene working with Alyeska to effect the transfer of management. BP also sent representatives to Prince William Sound Communities. The approach appeared professional and with an attitude toward doing all that was necessary to manage the response. Over the previous 16 months BP had sponsored a series of drills related to oil spill response. They began with a three-day table top exercise in Anchorage in November 1992. In June 1993 BP began a three part response drill with a telephone callout exercise, continued in August with a two-day "ramp-up" exercise and completed the drills with two days of on-water and ICS exercises in October. From this BP people arrived on the scene with experience from the drills relatively fresh in mind.

BP personnel were accessible and candid in their dealings with RCAC.

**SUPPLIES:** The nature of this spill demanded the use of a lot of expendables like absorbent booms. There appeared to be a sufficient supply of these materials and they were readily available when required. Wednesday some materials were running thin but sufficient supplies remained to outfit the demands of the response. BP by Wednesday had replacement supplies on their way to Valdez with some items scheduled for arrival that evening.

**SAFETY:** Initial response fishing vessels were not issued respirators nor were they told what the atmospheric tests showed. This despite the word of an Alyeska environmental officer who said all crews were wearing respirators. SERVS' response to this is that no fishing vessel would be sent into a hazardous atmosphere where anyone would have to wear respirators. For one reason, they don't want to send a source of spark into a potentially explosive atmosphere. Personal protective equipment was issued only after fishing vessel operators requested it when they started retrieving oiled absorbent boom.

Three vessels hit a rock on the south side of Saw Island: a SERVS work skiff, a fishing vessel and a Lori Brush skimmer.

**LABOR:** SERVS workers on boats and on shore worked long and sometimes hard hours. Yet, every chore was attacked as quickly as the orders were given and there was very little evidence of anything but high quality professional effort. There was very little sign of any kind of friction in the ranks.



## FISHING VESSEL OPERATOR COMMENTS

1. Thought over all it was good experience. Experimenting at first but finally got it right. Provisions and fuel supplies (vessel support) was good.
2. It went pretty well and they're (SERVS) getting better. The helicopter was right on you if you were entraining telling you to slow down.
3. We've been training for three or four years on this and when something happens the plan went right out the window. We were one of the first boats and were never told what the atmosphere was, never given respirators or any other PPE. We couldn't get in touch to tell someone where oil was. The supervisors kept changing. We never knew what task force we were in. We need lights on booms. Ours was nearly run over by a tanker that wouldn't talk to us.
- 4) Thought it went remarkably well. It caught everybody by surprise. I saw some slight variations in command and control early. They were kind of shooting from the hip. But they got it straightened out after the first day. (This was one of the first boats) Was not warned of atmosphere or given respirators. Never did detect any odors.
- 5) Generally thought they had put it all together and was somewhat impressed with the amount of effort put out. You have to look five years back and see what would have happened and then you have to look five years ahead at what's possible. It's slowly evolving. Thought that with oil escaping initial containment you could snap a small skimmer into the boom and let the sides angle to the skimmer..  
Pointed out the currents and tides and described one situation in which a supervisor changed boats' positions based on the tide tables. The boats set up to meet the new direction of current but it continued running in the opposite direction for about two hours. He pointed out that not only do the tides not meet the predictions but that the currents change with each tide. For instance you will get a different current on a 9 foot tide than you would get on a 14-footer.
- 6)Thought it went pretty well. They should try to get some rotation so guys can sleep. When the tanker left and some oil came up I was surprised at how much was captured. They used those absorbent sweeps and I was right behind the first boom and no oil came through.
- 7) Cordova boat was sent to the Valdez Small Boat Harbor to stand by. Actually had to pay moorage while waiting to work on spill.
- 8) They seemed under staffed on the fishing vessels. It was not confusing, there was an order to it.
- 9) When we got there it was a little chaotic for an hour but then settled down. We got assigned to a Lori Brush, a pretty nice piece of equipment, but it looked like it was designed by someone from Phoenix. Front end worked, but it was under powered, had poor steering and rigging. They should have permanent buoys in place at the Duck Flats and the hatchery and the buoys shouldn't be too far apart. They should put more than they think they need because of the currents there.

The CSI boom is too small, even the Ro boom is too small when the tide was running around the flats. They need a bigger chain on the bottom. Stuff was splashing over the boom because of the afternoon sea breeze.

10) They're expecting skippers and crewmen to work 24 hours a day when everybody else was taking time off. Alycska should come back and pay the skipper and crew, regular payroll.

11) They should either have twice as many boats or hire double crews. One or two days a guy can make it. After that it gets to be too much.

12) We were up all night moving the anchors on the boom at the hatchery.

13) We thought we would get groceries after three days. They need to get groceries to the boats.

14) There was no near shore program. There needs to be a fisherman up there with the supervisor, someone who's familiar with the boats and their capabilities. Some of the requests could have been done better and safer with smaller boats. Putting absorbents inside the booms.

15) This happened in ideal conditions. But with any weather would have caused problems with the boom rolling under. We thought we'd be rotating boats so we didn't sleep for 48 hours. It was pretty hard on a lot of us. We went four days without relief then got three hours and they woke us up again.

16) SERVS, when they changed shifts, they never told the new guy what was going on. They were always calling and asking what you were doing. If the new crew came on an hour ahead of time they could get a handle on it.

17) We were assigned to the Valdez Star and then released. Once we were turned loose from the boom there was nobody to assign us somewhere else.

18) On drills, even on the Exxon Valdez, crews worked 12 hours, maybe 18. Working 24 hours after about two days, guy's tired. They need to shut down, also to make engine checks.

19) There was a lack of communications. At one time we were sent to stand by. We could have rested if we hadn't had to maintain the radio watch. Then they told us to get some rest, so we did and three hours later somebody came pounding on the boat. We could have gotten eight hours sleep.

20) We had very little information on the situation.

21) They should find a way to put Velcro strips or something on the CSI boom, a way to attach the absorbents. We towed boom and collected oil, then they never came with a skimmer to pick it up. A couple of guys doubled up their absorbent. It rolled as they towed it and it did good. They'd be going through sheen and behind them, no sheen. There was a good two inches of sheen on the backside of the ship boom all the time.

22) Did they every use any Petronet boom? That's real good on sheen. Could make something like that rope mop to squeeze the oil out of it. In the Exxon Valdez it was the only boom that picked up weathered oil. We could have used a lot more boats, a lot more boom.

23) Had trouble in Cordova finding crew. Four bowpickers couldn't find a second person so they couldn't respond.

24) It would help to know who all the numbers are. It was hard to keep track of who was in charge.

25) When they're talking to people they should keep in mind guys have been up a long time. One fellow was gruff with a fishing vessel and the guy just said he'd had it and went home.

26) I'm sure a lot of oil got away into the sound on those big tides.

## ITEMS OF VALUE TO FUTURE RESPONSES

**TRAJECTORY TIMING:** *Note* : All of the movement mentioned below occurred in calm winds with light afternoon sea breezes. Times could expect to be shortened depending on the strength and direction of the wind.

**HATCHERY PROTECTION:** Oil was reported at Allison Point at 1400, 17 hours after the first report of the spill.

It was reported at the net pens at 1511, 18 hours, 11 minutes after the initial report. This occurred over a period of calm winds. Until 1400 oil had not been reported east of Berth 1.

The spill occurred on a flood tide with a general easterly set toward the hatchery for approximately 2 hours. At around 2300 high tide the current went slack then changed to a westerly set carrying oil to the west away from the hatchery. The tide changed again at 0544 and the flood ran until 1159. However currents at Allison Point and east continued westerly until close to 1500.

At the time of the low tide the oil had not passed Berth 3.

**Potentials:** If the spill had occurred at the beginning of the flood, oil conceivably could have reached the hatchery in as little as three hours.

Also oil can move from Allison Point to the hatchery in one hour just on currents with no wind.

### VALDEZ DUCK FLATS PROTECTION.

Oil was observed approaching the Duck Flats on the tide rip at 0538 Monday with some oil in the intertidal area. This was 33 hours after the spill was reported. Again this was with the first nine hours of the spill carrying the oil away. This followed six tide cycles with the flood just beginning. Also, the set of the

## GLOSSARY

- CSI:** A light duty harbor boom. Its flotation is similar to the material used in life vests. Yellow. There is a slightly heavier version of CSI that is black. Called Summer boom at the terminal.
- DESMI 250:** A weir skimmer based on the Desmi DOP pump. It consists of three floats supporting the weir and pump. Capacity 440 barrels per hour. It is used with the Coast Guard VOSS system and in nearshore work.
- ENERGIZER:** Nearshore barge as of 4/94. 2 Doseq Arms. 15,000 feet of assorted booms, skimmers, near shore support equipment. Capacity 73,000 barrels.
- ENTRAINMENT:** The effect of water currents against a boom forcing oil under water in front of the boom and allowing it to rise behind. This can be caused by towing a boom too fast or by strong current. Recommended towing speed is 3/4 knot or less.
- ERV** Emergency Response Vessel. These 299-foot vessels are used for escorting ships in transit and for boom and barge control in an oil spill response. They carry a variety of response equipment including 1,500 feet of Vikoma Ocean Boom, 3,000 feet of deflection boom, skiffs, Sea Skimmer 50s and a crew trained in their operation.
- JBF:** A self-propelled dynamic incline skimmer. A moving belt forces oil under water and back to a well where its buoyancy lets it rise into a 1,500 gallon collection well within the hull. From there recovered liquids can be pumped to storage of 2,500 gallons.
- KEPNER SEA CURTAIN BOOM:** A self-inflating collection and deflection boom. This boom is carried on the ERVs for use in deflecting oil into the Vikoma Ocean Boom of a Transrec Task Force. Each ERV carries two reels of 1,500 feet each.
- LEL:** Lower explosive limit. A measure of the combustibility of the atmosphere around an oil spill.
- LORI BRUSH SKIMMER:** This is a small rope mop skimmer mounted on a self-propelled barge that holds approximately 20 barrels of collected liquids.
- MARCO:** Rated at Class v and Class VII: A self-propelled skimmer with a nameplate recovery rate of 100-400 gallons per minute with storage for 80 barrels.
- OLEOPHILIC SKIMMER** This type of skimmer operates on a principle of oil adhering to some material moved through the water, then removed with scraping or scrubbing. Types of oleophilic skimmers include the Sea Skimmer 50 which has discs that rotated through the oil and the rope mop variations which trail material through the oil and wring it off the mop.
- POLLUTANK:** An inflatable 600 barrel storage barge used in near shore operations. A fishing vessel tows it to a collection boom and pumps oil from the boom into the barge.
- RO-BOOM:** This boom was designed for offshore containment duties. It is made of conveyor belt material and individual sections are inflated with air during deployment. This is the principal collection boom used in nearshore operations. It comes in several weights, including the RO-2000 and the RO- 1100 used by SERVS and RO 1500 used for booming tankers at the berths.

**ROPE MOP SKIMMER:** An oleophilic type. Ropes made of material that oil will adhere to are drawn through the water, circulating through a skimmer head that squeezes the oil from the collection rope. Lori Brush, Vertical Rope Mop.

**SEA SKIMMER 50** This is an oleophilic disc skimmer deployed from the deck of an ERV to supplement other skimming operations. Two of these are carried aboard each ERV. Capacity: 350 barrels per hour.

**SHORE GUARDIAN BOOM:** This boom is designed for use in the inter tidal zone. It has three tubes. Two on the bottom are filled with water and one on top with air for flotation. When tide goes out the boom settles on the beach forming a seal and held upright by the weight of the water tubes. When lifted by the incoming tide the air filled tube provides flotation. International orange.

**ULLAGE** The precise measurement between the top of a cargo tank and the top of the cargo. It is considered an accurate measurement of the quantity of the cargo.

**VALDEZ STAR** This vessel was designed for the Alyeska oil spill response effort. It is a dynamic incline skimmer which means it moves through the water skimming. It has a skimming capacity of 2,000 barrels per hour and can hold 1,309 barrels of liquid.

**VIKOMA OCEAN BOOM** This is a heavy duty open water boom inflated by an air pump aboard the controlling vessel. A water pump fills a lower tube in the boom to give it ballast to remain upright in the water. Each ERV carries 1,650 feet of this boom.



**Preliminary figures on liquids and oils recovered.**

As of Thursday June 2.

<b>Source</b>	<b>Oil recovered</b>	<b>Water recovered</b>	<b>Total Liquid</b>
Barge Allison Creek	74 barrels	712.2 bbl	786.2 bbl

Krystal Sea (IMO tank) This tank remained to be gauged. It had approximately 6.5 total inches of liquid in it with about 1 inch of oil on top. Estimated 40-50 gallons of oil.

In barrels This was expected to be mostly oil but had yet to be gauged. 15.07 barrels

The most optimistic expectation of oil recovered from these figures adds up to 89 barrels plus 45 gallons. This does not include what was recovered on absorbents.





# EXHIBIT 2

Alaska's Oil Spill Response Planning Standard - History and  
Legislative Intent

# ALASKA'S OIL SPILL RESPONSE PLANNING STANDARD

## History and Legislative Intent

Report to Prince William Sound Regional Citizens'  
Advisory Council  
AUGUST 2018

WHEREAS, the citizens and the legislature of the State of Alaska worked diligently to ensure that the state's citizens and natural resources are protected from the occurrence and consequences of oil spills by enacting comprehensive legislation known as HB 567 to regulate oil spill prevention, response, contingency planning, financial responsibility, inspection authority, and other subjects relating to the safe transportation of oil and other hazardous substances, as a result of the lessons learned from the spill of the Exxon Valdez,

lessons learned from the spill of the Exxon Valdez'  
transportation of oil and other hazardous substances' as a result of the

*Excerpt from Resolution passed by communities and stakeholders  
in support of the implementation of HB 567 mandates (1991)*

Elise DeCola and Tim Robertson  
Nuka Research and Planning Group, LLC

## ACKNOWLEDGEMENTS

The authors acknowledge with gratitude the contributions of the following individuals, who were willing to share their perspectives and memories about the development and passage of HB 567, based on their firsthand participation in the process (positions and affiliations during the *Exxon Valdez* oil spill and its aftermath noted in parentheses).

Steve Cowper (Governor of Alaska)

Drue Pearce (Alaska Senate President and Chair of the Special Committee on Oil and Gas)

Larry Dietrick (Director, Alaska Department of Environmental Conservation Division of Spill Prevention and Response)

David Rogers (Legislative Staff)

Marilyn Heiman (Staff to House Resources Committee)

Michael Williams (Attorney for British Petroleum)

Dennis Kelso (Commissioner, Alaska Department of Environmental Conservation)

We also acknowledge the contributions of PWSRCAC staff and contractors who helped to compile research to support this report.

Linda Swiss

Doug Mertz

Joe Banta

Margo Waring

Donna Schantz

The authors take full responsibility for any errors or inaccuracies in this document.

## AUTHORS' NOTE

This report is one of hundreds that Nuka Research has produced over the years, but it stands apart for many reasons. It presents a less formal narrative approach than our typical technical reporting. We felt this was appropriate given the subject matter and our shared personal connection to the topic. One of us lived and breathed the events described here, while the other responded in a college dorm room a continent away by switching majors to environmental science. Both of us have since built careers that center on cultivating vigilance and preparedness for events like the *Exxon Valdez* oil spill – largely inconceivable, until they are real.

We have both observed the cycle of preparedness and the inevitable slide toward complacency during the time between disasters. In oil spills as in many things, we must learn from history and endeavor never to repeat the past. We hope that this report will compel and inspire the next generation of mavericks and visionaries to continue to protect Prince William Sound and all other natural, beautiful places from oil spills and other environmental threats.

Tim Robertson and Elise DeCola, June 2018

*"Few will have the greatness to bend history itself; but each of us can work to change a small portion of events, and in the total; of all those acts will be written the history of this generation."*

Robert F. Kennedy

*"History is a cyclic poem written by time upon the memories of man."*

Percy Bysshe Shelley



The opinions expressed in this PWSRCAC-commissioned report are not necessarily those of PWSRCAC.

## Abstract

This report tells the story of how and why an unlikely alliance of regulators, politicians, oil industry executives, and international spill response experts used the *Exxon Valdez* oil spill as a springboard for reimagining oil spill preparedness and response in America's 49<sup>th</sup> state.

On June 27, 1990, Governor Steve Cowper signed a law that created, among other things, a response planning standard for oil spills. The new standard was a direct result of the massive failure of the spill response system in place when the *Exxon Valdez* ran aground. It established a foundation that continues to distinguish Alaska, and particularly Prince William Sound, as having a world-class preparedness and response system.

The genesis of Alaska's response planning system was an Emergency Order issued by the Alaska Department of Environmental Conservation two weeks after the spill occurred, compelling Alyeska Pipeline Service Company (Alyeska) – the consortium operating the Trans Alaska Pipeline and Valdez Marine Terminal – to create a response system with sufficient equipment, vessels, manpower, and ancillary support to handle a 10 million gallon spill. It prescribed a minimum round-the-clock response crew of 12, a 10,000 barrel per day on-water oil recovery capacity, dual escorts for all laden tankers transiting the Sound, and a two-hour response time to initiate containment and recovery. Alyeska was given 38 days to comply with the order; non-compliance carried the risk of shutting down the terminal.

Alyeska met the challenge with an Interim Plan that reflected long days of intense analysis and reluctant compromise among a team of industry response experts and attorneys. They sketched out a significantly enhanced response system modeled after the Sullom Voe Terminal in the Shetland Islands. This industry-generated Interim Plan included many of the elements later incorporated into the state law and regulations. In the case of Alaska's response planning standard, the legislative requirements tie back directly to the system that industry designed to handle an *Exxon Valdez*-sized spill. While opinions on the resulting bills vary, everyone interviewed for this report agreed that the response planning standard is a product of consensus and compromise from all sides.

The law that was enacted in June 1990 has been described as “self-executing,” in that it contains a number of very specific provisions that limited the need for interpretation during the regulatory process. One of the most important provisions – the requirement for a 300,000-barrel response capacity to be in place within 72 hours of a spill – was a direct nod to the fact that simply requiring a set amount of boom, skimmers, and vessels to be in place did not ensure an adequate response. A time-bound and capacity-driven standard was viewed as the best way to avoid ever reliving the *Exxon Valdez*.

Every individual interviewed for this report spoke about their involvement in creating and establishing Alaska's response planning standard with a palpable sense of accomplishment, which is particularly notable given their considerable achievements since. To a person, they were adamant that if the system created after the 1989 spill were to be weakened or removed, Alaskans would face the risk of reliving an event that is still deeply impressed upon all who lived through it.

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# ALASKA'S OIL SPILL RESPONSE PLANNING STANDARD

## History and Legislative Intent

August 2018

### I. Introduction

This report summarizes historical information about the development, passage, and implementation of House Bill 567 (HB 567), which created Alaska's oil spill response planning standard.

#### Why Now?

This report was developed during 2017-2018, at a time when many of the key individuals involved in creating Alaska's RPS were approaching the end of their careers. Some had moved onto work on other issues, and some had passed away. The purpose of creating this report and the process used to do so – which relied heavily on firsthand recollections of key participants – acknowledge that policy development is much more than legislative language or regulatory enforcement.

As the 30<sup>th</sup> anniversary of the *Exxon Valdez* oil spill approaches, there are many new faces in Alaska's legislature and executive agencies, and some may not fully appreciate the legacy they have been entrusted to protect. This report memorializes the "why" behind Alaska's oil spill response planning standards, in hopes that this knowledge will continue to inform the implementation of and compliance with these standards.

#### Regulatory Legacy of Exxon Valdez

This report focuses on the legislative and regulatory processes that occurred in the

wake of the March 24, 1989 *Exxon Valdez* oil spill. Most of the activity described ties to the State of Alaska legislative and regulatory process that began almost immediately following the spill, and continued until mid-1992.

While the focus of this report is on events that occurred in Alaska from 1989-1992, it also considers factors in place prior to 1989 and explores the legacy of the state's response planning standards to the oil spill contingency planning and response system currently in place in Prince William Sound.

Alaska was not the only jurisdiction to respond to the 1989 oil spill with new laws and policies; this report also touches on the concurrent changes to the U.S. oil spill response framework through the Oil Pollution Act of 1990.

#### Reconstructing the Story

This report synthesizes information from a number of sources to document the intent behind Alaska's response planning standard. The oil spill response framework envisioned after the spill and enhanced over time is ultimately the product of years of hard work, critical thinking, and creative problem-solving by a group of talented professionals and passionate stakeholders who were impacted in some way by the *Exxon Valdez* oil spill.





**Governor Steve Cowper signs into law a suite of bills developed to enhance Alaska's oil spill preparedness in the wake of the Exxon Valdez oil spill.**

Photo courtesy of David Rogers

In developing this narrative, we relied on a small group of individuals with a range of experiences and backgrounds – the former Governor and Senate President, leadership from within the Alaska Department of Environmental Conservation's (ADEC) Spill Prevention and Response program, legislative staffers, and oil industry executives – to help reconstruct and interpret events that occurred many years prior. Prince William Sound Regional Citizens' Advisory Council (PWSRCAC) staff and volunteers also provided critical input and knowledge.

While the narrative has been shaped by personal reflections and recollections of long-past events, the authors also undertook an extensive literature review. Our research spanned written memoranda, meeting summaries, internal legal and policy briefs,

and other contemporaneous sources from 1989 through the mid-1990s.<sup>1</sup>

### About this Report

The report begins with a brief summary of the *Exxon Valdez* oil spill, which served as the catalyst for introduction and passage of Alaska and U.S. laws creating new standards for oil spill preparedness and response.

The body of the report highlights key components of the Alaska state law and implementing regulations that created the state's oil spill response planning standards. The legislative history is examined to emphasize the intent behind these standards. The opinions and perspectives of firsthand participants are described to provide context for the legislative process and to highlight key achievements.

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<sup>1</sup> Key sources included the Alaska State Archives and PWSRCAC's document management system, include

The report concludes with the authors' observations on the importance of Alaska's response planning standards to the current

Prince William Sound oil spill preparedness systems.

## 2. From Oil on Water to Ink on Paper



**Valdez Marine Terminal in 1989.** (State Archives)

It is impossible to discuss Alaska's oil spill response planning standard without also discussing the *Exxon Valdez*. Without exception, each individual interviewed for this report began by recalling his or her experience during the 1989 spill and its aftermath.

While the broad details of the spill are well known, the narrative of the spill response – how it unfolded and progressed, how it impacted coastal communities, and how it exposed deep cracks in existing preparedness – shaped the subsequent legislative response. In order to understand how and why Alaska's oil spill response planning standard is so significant, it is useful to revisit a time when no such standards existed.

### Crude Oil Tankers in Prince William Sound

When the first laden oil tanker pulled away from the dock at the Valdez Marine Terminal in August 1977, the era of Prince William Sound crude oil shipping began. This historic voyage continued a legacy of oil and gas industry operations that began with the first oil claims in western Cook Inlet in the late nineteenth century. With the 1967 discovery of North America's largest known oil field in Prudhoe Bay, the scope and scale of Alaska's oil and gas industry expanded significantly.<sup>2</sup>

<sup>2</sup> Alaska Humanities Forum, 2017; McDowell Group, 2017.

**“The vessel’s course, down a 1,200-mile corridor designated by the United States Coast Guard, was to take it through the Valdez Narrows – at one juncture only 2,700 feet wide – and across Prince William Sound into the Gulf of Alaska.”**

New York Times article describing the voyage of the *Arco Juneau* (1977)

Construction of the Trans Alaska Pipeline and the Valdez Marine Terminal during the mid-1970s created an economic boom that resulted in thousands of jobs, both during the construction phase and after oil first began flowing in 1977.

During the 12 years that elapsed between the *Arco Juneau’s* historic first voyage and the grounding of the *Exxon Valdez*, approximately 6.65 billion barrels of crude oil were transported by tanker through the waters of Prince William Sound on their way to market.

### Oil Spill Response Framework in 1989

At the time of the *Exxon Valdez* oil spill, tankers were operating under a network of oil spill planning and response requirements established through state and federal law. The federal Clean Water Act<sup>3</sup> and complementary State of Alaska statutes and regulations<sup>4</sup> addressed oil pollution prevention and response, which were the foundation for the plans and equipment that were in place when the *Exxon Valdez* ran aground.

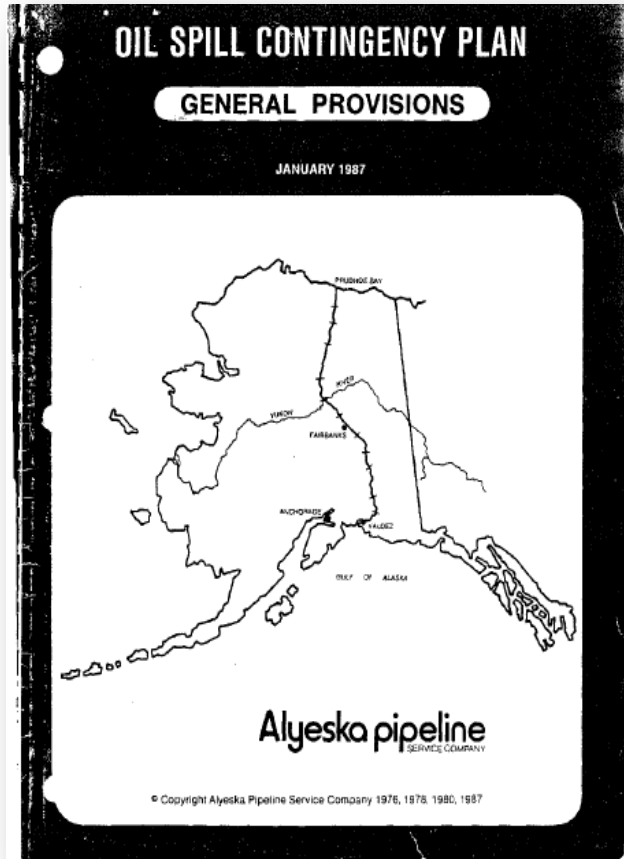
Alyeska Pipeline Service Company (Alyeska) published their first oil spill contingency plan in 1976, and was operating under a 1987 update to that plan when the oil spill occurred.<sup>5</sup>

<sup>3</sup> 33 USC Sec. 1251 et seq. (1972).

<sup>4</sup> AS 46 and 18 AAC 75.

<sup>5</sup> The evolution of Alaska’s contingency planning requirements is described in Section 4 of this report.

The 191-page plan outlined objectives and described roles and responsibilities for various members of their spill response team. It contained detailed information about estimating spill volumes, and general descriptions of spill response tactics. It also covered training and drills.<sup>6</sup>



**The 1987 Alyeska Oil Spill Contingency Plan identified a cache of equipment to support spill response, but when the *Exxon Valdez* spill occurred, the equipment needed to contain and recover the spill was buried under a massive snow pile.**

Since the plan applied to the entire pipeline, terminal, and tanker operations, a great deal of the information included was specific to inland spill response (along the pipeline route) and not applicable in Prince William Sound.

<sup>6</sup> Alyeska, 1987.

The 1987 Contingency Plan listed equipment that was available at the Valdez Marine Terminal and in other field locations. The equipment included 11 boats, 13 skimmers, and a total of 21,000 feet of boom of various sizes.

There were storage containers that could hold about 1,500 gallons of recovered fluids, and enough protective equipment to outfit 50 responders. The Valdez equipment cache also had a variety of hand tools and work equipment like compressors, hoses, pumps, lights, and battery packs.

On March 24, 1989, as a laden tanker ran aground on a well-charted reef, this equipment was buried under 10 feet of snow.<sup>7</sup>

### “Utterly Overwhelmed” by the Amount of Oil in the Water

Within three hours of the *Exxon Valdez* tanker grounding, nearly 6 million gallons had already flowed out of the damaged tanks and into Prince William Sound. Within 12 hours, the slick was estimated to be 3 miles by 5 miles. The sheer magnitude of this release completely overwhelmed both people and resources.

Alyeska had initial responsibility to try to contain and recover the spill. They responded soon after the grounding was first reported, but encountered a number of challenges. The spill response barge was not operational because it was undergoing maintenance following its use to respond to a spill at the terminal three months prior. There were not enough trained personnel and most of the response equipment was covered in snow. As a result, the initial response resources that were supposed to be on-scene within five hours of a spill did not reach the spill site until over 14 hours after notification.



Alyeska's initial focus was on lightening fuel off the damaged tanker, which further slowed the deployment of response systems. Containment booming around the leaking tanker was completed at 11:00 am on March 25, over 34 hours after the spill was first reported.

<sup>7</sup> Alaska Oil Spill Commission Report, 1990.



**Vessels on-scene at Exxon Valdez oil spill – April 5, 1989. (Alaska State Archives)**

On the second day, as their officials and personnel arrived in Valdez, Exxon began to assume responsibility for the spill response. While Exxon scrambled to mobilize people and equipment, local communities had already begun to mobilize fishing vessels, desperate to act against the unfolding disaster. A growing sense of frustration among local residents created tensions that played out in public meetings, the media, and their day-to-day lives. Despite calm, clear weather and a slick that “hovered in deep, calm waters near the grounded tanker,” the response was “utterly overwhelmed by the amount of oil in the water.”<sup>8</sup>

During the initial response, the U.S. Coast Guard closed the Port of Valdez to tanker traffic, which led to a subsequent reduction to throughput for the Trans Alaska Pipeline System, since oil movements out of the terminal had stopped.

**“The hard facts are that neither Alyeska nor the federal and state governments were prepared to deal with such a disaster...However, the Exxon Valdez incident was such a significant event that the oil industry and government were forced to examine how they would respond to future oil spills.”**

Michael Williams, former BP attorney, in *How the Exxon Valdez spill gave birth to modern oil spill prevention plans*, Alaska Dispatch News (2014)

### **National Oil Spill Response System: a “Toothless Tiger”**

During the days and weeks that followed, the pattern remained much the same. The oil continued to spread. The response continued to be inadequate. And Alaskans – from the governor’s office to the schoolyard – continued to experience outrage and disbelief that the safety system they had assumed to be in place had failed so spectacularly. The Alaska Oil Spill Commission described a level of frustration with both government and industry plans and as “toothless tigers” incapable of facing a major oil spill.

<sup>8</sup> Alaska Oil Spill Commission, 1990.

The governor of Alaska declared a disaster on the third day after the grounding, at which point the oil had already spread to cover more than 50 square miles. The initially calm weather eventually turned stormy, compounding the disaster by spreading the oil further to the south and west while precluding any cleanup.

### Communities Disrupted

As the oil spread, day-to-day life in coastal communities became completely focused on the spill response. Communities, families, and businesses temporarily set aside routines and responsibilities during the initial frantic weeks, not realizing that the cleanup process would drag on for years. As the oil spread and coated areas of the coast, the focus shifted from recovering or dispersing floating oil slicks to cleaning up oiled beach and dealing with masses of oiled wildlife.

Communities were on the front lines during the initial response, as the spill spread well beyond the capacity of Alyeska or Exxon to mitigate. An influx of responders from outside Alaska began to arrive by the hundreds. Communities that had self-directed *ad hoc* cleanup operations were forced to turn over local control to this broader spill response system. Some local residents were hired by the response, while others refused to work for Exxon. This fueled underlying stress and tension in communities that were already stretched thin.

The *Exxon Valdez* cleanup process continued across four summers before it was finally called to a halt in 1992. At its peak, the \$2.5 billion response involved 11,000 people, 1,400 boats, and about 80 aircraft. Despite this significant effort, winter storms may have

cleaned more beaches than the actual response.



*Exxon Valdez beach cleanup workers (Alaska State Archives)*

### Legislative Changes

The significant gaps and shortcomings in the Prince William Sound oil spill response system were laid bare during the multi-year cleanup process. Before the cleanup was completed, the State of Alaska had enacted laws and drafted regulations that would fill these gaps by reimagining a response system sufficient to manage another large-scale spill. The cornerstone of this approach was the creation of a response planning standard.

### 3. Emergency Order Compels a New Approach

Actions taken by Governor Steve Cowper during the first days of the spill laid the foundation for Alaska's response planning standard. A decisive leader by all accounts, Governor Cowper is said to have given the ADEC a very succinct directive for how to build adequate oil spill response capacity, which essentially amounted to "do the right thing."<sup>9</sup>

Recognizing that simply requiring stockpiles of spill response equipment did not assure a functional response capacity, the governor encouraged a more holistic approach that would ensure that Alaska never relived the *Exxon Valdez*.

#### "Rigorous but Achievable" Standards

While the eyes of the world were on Alaska and its massive oil spill, a small group of state employees, legislative staffers, and oil industry experts – each charged from above with building a better response system – rolled up their sleeves and got to work. As they set out to imagine the possible, they had the good fortune to draw from the knowledge and experience of a few visiting Norwegians.

When the spill occurred, the Norwegian Coastal Administration had sent a small delegation to offer suggestions to Alyeska for clean up technologies to mitigate the spill. Instead, the visiting experts ended up in a series of intense strategy sessions held in *ad hoc* meeting spaces across Valdez. Larry Dietrick and Steve Provant, contingency planners from ADEC, leveraged the Norwegians' expertise by focusing on the practical: using the *Exxon Valdez* as a worst case scenario, how would you design a system sufficient to mount a response to that spill in Prince William Sound?

<sup>9</sup> Personal communications with Dennis Kelso, August 28, 2017.

This approach helped to sketch out the minimum equipment capability requirements and delivery timeframes that would eventually evolve into Alaska's response planning standard. Phrases like "rigorous but achievable" were tossed around, and the outcome included some fairly specific requirements, such as 10,000 barrels per hour recovery capacity. The concept of a 72-hour initial response window also came out of these early discussions, based on the fact that oil spills become exponentially more difficult to clean up as the oil spreads away from the source and naturally degrades over time.<sup>10</sup>

**"We would meet at night in a windowless jury room in the Valdez law library."**

Larry Dietrick and Dennis Kelso, formerly of ADEC, on the *ad hoc* meetings that led to the issuance of an Emergency Order immediately following the *Exxon Valdez* spill (from August 2017 interview)

This element of the process is important because the response planning requirements that ultimately ended up in Alaska's statutes and regulations were actually created by technical experts with firsthand experience preparing for and responding to oil spills. The standards reflect the deliberate intent to set a high bar that held the industry accountable to concrete requirements. The only way to avoid a repeat of the *Exxon Valdez* response was to create standards that compel the industry to build and maintain a system that many had assumed was already in place at the time of the *Exxon Valdez*.

<sup>10</sup> Personal communications with Larry Dietrick and Dennis Kelso, August 28, 2017.

Before the response planning standards were formalized through the legislative process, they were implemented through an emergency order by the State of Alaska.

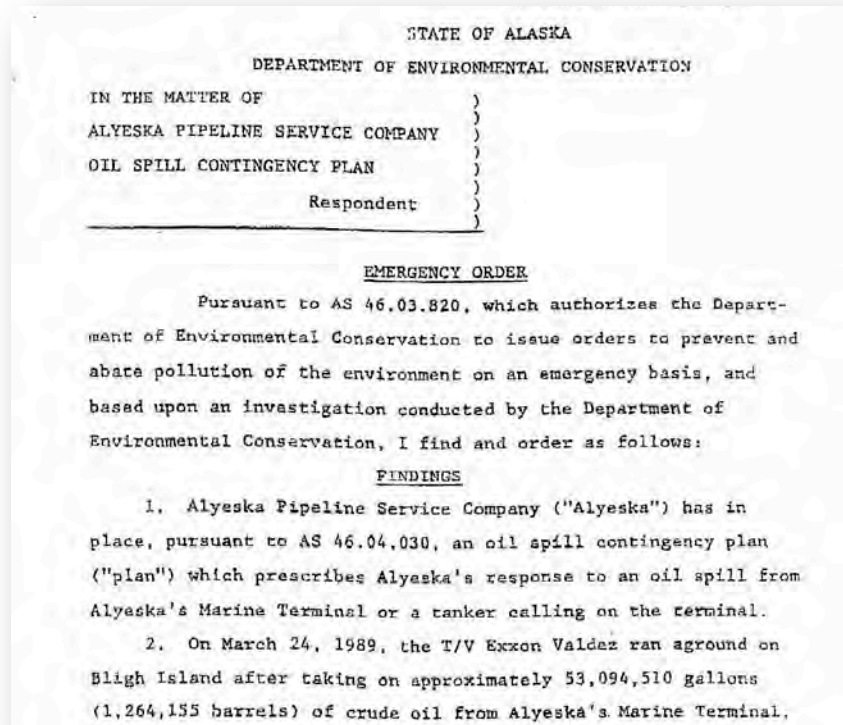
## Emergency Order

On April 7, 1989, two weeks after the tanker ran aground, ADEC Commissioner Dennis Kelso signed an Emergency Order<sup>11</sup> that detailed all of the failures in Alyeska's oil spill contingency plan, noting that "Alyeska's inadequate response to the spill under the plan to date demonstrates its inability to respond as required under the plan to any new oil spills." The Emergency Order set out a series of specific and time-bound requirements for Alyeska to put in place a robust oil spill prevention and response system commensurate with the risks that had been laid bare when the *Exxon Valdez* ran aground.

The Emergency Order directed Alyeska to submit a modified Oil Spill Contingency Plan that included the following components:

- All core contingency plan equipment in place at the terminal and dedicated to response;
- A dedicated, round-the-clock response crew of at least 12 on site and immediately available at the terminal at all times;
- Pre-booming all tankers;

<sup>11</sup> State of Alaska Department of Environmental Conservation, Emergency Order in the matter of Alyeska Pipeline Service Company Oil Spill Contingency Plan, pursuant to AS 46.03.820.



**Excerpt from 1989 Emergency Order that required additional equipment and capacity at Valdez Marine Terminal.**

- Dual tug escorts for all outgoing (laden) tankers to Hinchinbrook Entrance;
- Extension of mandatory pilotage zone for outgoing tankers;
- Sufficient response equipment, vessels, manpower, and ancillary support available to arrive on-scene within two hours of notification for a 10 million gallon oil spill in Prince William Sound;
- Communications requirements to monitor movements of outgoing tankers; and
- Enhanced notification requirements.

The State of Alaska insisted that Alyeska comply with these substantial additional response standards in fairly short order, suggesting that continued operation of the terminal could be in jeopardy if the



conditions were not met.<sup>12</sup> For example, the Order specified that Alyeska must acquire at least 30,000 feet of ocean boom and 10,000 barrels per hour skimmer capacity (including pumps, transfer and lightering equipment, and storage) and have this equipment in operation by May 15, 1989.

By giving Alyeska a 38-day time limit to build a response system that could handle another major oil spill, the Emergency Order created a strong imperative to innovate and problem-solve.

### Industry Responds with Interim Spill Plan

The State of Alaska had drawn a line in the sand, and Alyeska now faced the significant challenge of envisioning a system that would meet the Emergency Order criteria. Another series of late night strategy sessions ensued, this time led by the industry.

Mike Williams, then an attorney and policy expert with BP, was one of the leaders of this process. In a 2014 opinion piece in the Alaska Dispatch News, Williams recalls, "There was not a port in the world that required such a response. Plans for Valdez and other ports had always been written for 'the most likely spill,' a spill of about 10,000 barrels. These new standards meant that the new plan would have to be revolutionary."<sup>13</sup>

BP sent Williams to Anchorage to work with an unlikely team made up of spill response specialists and attorneys. His marching orders were simple; figure out a way to comply with the Emergency Order to "make sure the terminal stays open." From a suite of hotel rooms overlooking Cook Inlet, this

team of strangers from different industries and countries stared at a blank page, compelled by a ticking clock and a tense political climate.<sup>14</sup>

Collectively, Alyeska's strategy team had a good deal of knowledge about spill cleanup technologies and marine operations, and also understood the legal and regulatory context for demonstrating compliance. However, they struggled to imagine how to assemble sufficient forces to handle 10,000 barrels per hour of oil within two hours, anywhere in Prince William Sound. They scanned the globe for model response systems of the scale envisioned by the State of Alaska, and eventually set their sights on the Sullom Voe Terminal in the Shetland Islands. At the time, the Shetland oil terminal had a substantial offshore oil spill response capacity – arguably the most robust in the world.<sup>15</sup>

Keith Cameron, a BP response expert sent over from Great Britain, suggested bringing over the large weir boom system in Southampton, and mounting it on the deck of an anchor-handling tug so that it would be immediately available any time a tanker sailed through Prince William Sound.<sup>16</sup> This was the breakthrough that led the team to begin furiously sketching a prototype system of escort and response tugs, oil storage barges, and high capacity skimmers. The system borrowed elements from Sullom Voe, where they had a dedicated response capacity resident at the terminal, ready for immediate deployment.

<sup>12</sup> State of Alaska Department of Environmental Conservation, Emergency Order in the matter of Alyeska Pipeline Service Company Oil Spill Contingency Plan, pursuant to AS 46.03.820.

<sup>13</sup> "How the Exxon Valdez spill gave birth to modern oil spill prevention plans," Alaska Dispatch News, March 18, 2014.

<sup>14</sup> Personal communications with Mike Williams, September 25, 2017.

<sup>15</sup> The citizen oversight model in place in Sullom Voe ultimately provided the impetus for the creation of regional citizens advisory councils through the federal Oil Pollution Act of 1990.

<sup>16</sup> "How the Exxon Valdez spill gave birth to modern oil spill prevention plans," Alaska Dispatch News, March 18, 2014.

The industry team realized that adding response skiffs, boom, and trained personnel to the equation would create the immediate response capacity needed to meet the state's mandate for two-hour response times. The foundation for Alyeska's current Ship Escort/Response Vessel System (SERVS) was born this way, in the Sir Francis Drake Suite at the Captain Cook Hotel, in the early hours of a morning during the spring of 1989.<sup>17</sup>

***“How did we know we’d built the right-sized system? The Cordova fishing fleet wanted ten times as much equipment, and industry wanted to cut it in half.”***

Michael Williams, former BP attorney, personal communications (September 25, 2017)

The result of hard work and creative problem solving, the Interim Response Plan<sup>18</sup> envisioned a substantial system, which included:

- Three Escort Response Vessels (ERV), each equipped with two skimmers rated at 385 barrels per hour each, 4,600 feet of boom, a 20-foot work boat, and 4,000 barrels of oil storage capacity (two of these would travel alongside transiting tankers, the third stationed in Valdez);
- One Weir Boom Response Vessel (WRV), equipped with a high-capacity skimming system (rated at 4,200 barrels per hour) and a 20-foot work boat (stationed in Valdez);
- One Dynamic Skimming System (DSS), a 140,000 barrel integrated tug/barge permanently manned and equipped with two sweep arms (combined boom/skimming units with

2,100 barrels per hour rating), stationed at Knowles Head;

- One Lightering Vessel, an integrated tug/barge with 180,000 barrels storage capacity, equipped with fenders, pumps, moorings, and ancillary salvage equipment (stationed at Knowles Head);
- Two storage barges, one 73,000 barrels and one 63,000 barrels, each equipped with an assortment of containment boom (about 16,000 feet total), pump and skimming systems, and absorbent materials (stationed in Valdez);
- Two ship assist tugs available for pollution response (stationed in Valdez); and
- Two large fishing vessels under contract to Alyeska to assist in booming and skimming operations (in Valdez Harbor).

The Interim plan described a tiered response where the ERV would be on-scene immediately to support initial oil spill response, with a trained and dedicated ERV Response Supervisor on board to coordinate ship safety and direct spill response activities. Mike Williams points to this feature as particularly important and a direct result of the chaos and disorganization that characterized the initial response to the *Exxon Valdez* oil spill. By having a qualified initial Incident Commander ready to go, the ERV can get to work immediately to contain and control the spill during those critical initial hours.<sup>19</sup>

The second tier response would arrive on site within three hours, consisting of the Lightering Vessel and Dynamic Skimming System stationed at Knowles Head for rapid

<sup>17</sup> Personal communications with Mike Williams, September 25, 2017.

<sup>18</sup>“ Interim Operating Plan dated May 1, 1989 of Alyeska Pipeline Service Company.”

<sup>19</sup> Personal communications with Mike Williams, September 25, 2017.

deployment anywhere in Prince William Sound. Once on-scene, these resources would be directed by the ERV Response Supervisor. A third tier, available on site within 10 hours of notification, includes the Weir Boom Response Vessel and third ERV stationed in Valdez. One ship assist tug would tow a storage barge from Valdez to the spill site, while the other ship assist tug, along with contracted fishing vessels, would be sent to the incident site as soon as possible.

The industry team was in constant communication with ADEC as they drafted the Interim Plan, which like nearly everything that occurred during the policy fallout from the *Exxon Valdez* reflected equal parts out-of-the-box thinking and compromise. Even within the group assembled at the Captain Cook, there were differences of opinion borne of different corporate cultures among the oil companies that formed the Alyeska consortium. Williams describes the “socialization of concepts” among the industry representatives, and recalls some “annoyance” among oil company executives

at the roughly \$60 million annual price tag attached to the proposed new Prince William Sound response system.<sup>20</sup>

Nevertheless, on May 1, 1989, only 39 days after the spill, Alyeska delivered an Interim Spill Plan that met the very high bar the state Emergency Order had set. The core components of the system tied directly back to the failed *Exxon Valdez* response, by ensuring that there would be enough capacity resident in Prince William Sound for the first 72 hours of a spill, backed up by resources that could be brought to the site first from within the region and eventually from beyond Alaska.

Soon after Alyeska had reimagined oil spill response through the interim plan, the Alaska legislature began to envision a regulatory framework that would legally compel its existence.

**VESSEL MANPOWER AND TRAINING**

There will be approximately 48 people dedicated to vessels maintained for emergency response duties in Prince William Sound. These include:

ERV #1	8 crew/12 hour shifts	=	4/shift
ERV #2	8 crew/12 hour shifts	=	4/shift
ERV #3	8 crew/12 hour shifts	=	4/shift
WRV	8 crew/12 hour shifts	=	4/shift
DSS	8 crew/12 hour shifts	=	4/shift
LIGHTERING VESSEL	8 crew/12 hour shifts	=	4/shift
<b>TOTALS</b>	<b>48</b>		<b>24/shift</b>

In addition, there will be one ERV Response Supervisor on each shift.

*The Interim Plan that Alyeska developed included dedicated crew of 48 people (Note: image is crooked due to quality of original document scan).*

<sup>20</sup> Personal communications with Mike Williams, September 25, 2017.

## 4. Evolution of Alaska's Oil Spill Contingency Planning Regulations

The process of drafting, passing, and enacting new oil spill response standards for tankers and other oil facilities operating in Alaska took three years. It concluded approximately one month before active cleanup of the *Exxon Valdez* oil spill was declared complete.

On June 27, 1990, Governor Steve Cowper signed into law a suite of new legal requirements to ensure that all parties would be better prepared and equipped to handle future oil spills in Alaska. Understanding the significance of these new standards requires a basic understanding of the regulations that were in place prior to 1990.

### Requirements Dating to Late 1970s

At the time of the *Exxon Valdez* oil spill, Alaska already had a number of statutes, regulations, and programs focused on preventing and mitigating oil pollution. The ADEC had been in place for 18 years at the time of the accident. The requirement for oil spill contingency plans was enacted in October 1977, and the regulations specified that operators must identify “the amounts, specifications, limitations, and storage locations for cleanup equipment” along with “response times from the time of the discharge to deployment of containment and recovery equipment.”<sup>21</sup>

An important driver for these early regulations was the state's dissatisfaction with the level of preparedness that the federal government was willing to accept for Prince William Sound operations. As the startup of the Trans Alaska Pipeline System loomed large, tensions grew between state and federal regulators over how much equipment and preparedness was enough. Randy Bayliss,

the DEC regional supervisor for Prince William Sound during the development of the original oil spill contingency plan for the terminal and tanker operations, is noted to have taken a strong stance in insisting on a higher level of equipment than was ultimately put in place. Bayliss was quite candid in pointing to the tension between federal and state agencies regarding the sufficiency of contingency plans, with the state calling for higher preparedness and the federal government defending the plans as sufficient.

**“APO [the federal pipeline office] and USCG say the plans are quite good. SPCO [State Pipeline Coordinator's Office]...and DEC say the plans stink and other reviewers (NMFS, Fish & Wildlife) agree.”**

Randy Bayliss, ADEC Regional Supervisor for Prince William Sound (May 2, 1977 memo)

Three major areas were cited where Alyeska was not meeting the state's expectations for equipment, “(1) they refuse to buy more than 11,000 feet of boom (we want about 60,000 feet); (2) they refuse to place any boom or boats in Prince William Sound (we want about 80,000 feet and six boats divided up at sites on Montague, Naked, and Glacier Islands); (3) they refuse to buy lightering pumps.”<sup>22</sup>

The 1977 regulations specified approval criteria for the state to accept contingency plans, including “applicants must provide and maintain oil discharge pickup or removal equipment of sufficient capacity to remove the median oil discharge in not more than 48 hours, and the maximum probable oil spill within the shortest feasible period of time.” The regulations also required that oil spill

<sup>21</sup> Register 63, October 1977, Regulations at 18 AAC 75.310(8) and (10).

<sup>22</sup> Alaska Oil Spill Commission report, 1990 (pg 41).

response equipment “must be stored and maintained so that it can be deployed and operational within no more than 12 hours after the oil discharge.”<sup>23</sup> Maximum probable oil discharge was defined as the entire capacity of the vessel.

### The First Contingency Plan

As the state sought to enhance their requirements in the face of new risks from tanker and terminal operations in Prince William Sound, the federal government granted approval, on June 11, 1977, to the Alyeska Oil Spill Contingency Plan. There was some language in the approval that acknowledged there would be future reviews and that ongoing enhancements and improvements were expected, but the first version of the approved plan fell well short of the equipment standards that the State of Alaska established in their regulations, which were finalized after the first Alyeska plan took effect.

Not only did the plan not meet the state’s expectations, ADEC’s Bayliss conducted an inspection in December 1977 and found that of 170 pieces of equipment listed in Alyeska’s plan as being present at the Valdez terminal, 137 of them were missing or inoperable.<sup>24</sup>

Controversy and disagreement among state regulators, federal regulators, and the industry continued over the next several years. As ADEC began to implement their new regulations, Alaska’s Attorney General was facing a lawsuit in federal courts challenging the state’s authority to create standards for the tanker industry, under the Supremacy Clause of the U.S. Constitution.<sup>25</sup>

Little progress was made during the late 1970s to enhance the oil spill response

system that Alyeska had put in place, and state contingency plan reviews were stalled by the legal challenges.

**“Alaska law requires preparation of contingency plans for a variety of situations. And though the Department of Environmental Conservation (DEC) can withhold approval, it has inadequate statutory and regulatory means to force compliance with plan standards. State law also currently provides only minor sanctions for failing to follow a plan in the event of a spill.”**

Alaska Oil Spill Commission Report (1990), describing the state’s authorities under laws and regulations in place at the time of the Exxon Valdez oil spill

The regulations were updated in 1981, and the contingency plan approval criteria were strengthened by requiring applicants to “have ready access to sufficient resources to protect environmentally sensitive areas and areas of public concern.” The revised regulations specified that operators must “maintain in their areas of operation sufficient oil discharge containment and removal equipment to rapidly contain the oil discharge...and remove that discharge within a 48 hour period when adverse conditions do not threaten safety of personnel.”<sup>26</sup>

By 1982, ADEC had conducted their first complete review of the Alyeska Oil Spill Contingency Plan, granting a “conditional” 45-day approval, followed by full approval of the plan in January 1983. The state’s approval was granted despite the results of a “reality test” by then ADEC District Supervisor in Valdez, Dan Lawn, which stated that the plan “probably satisfies the regulation requirements on paper; however APSC [Alyeska] has never been able to demonstrate that the recovery rates listed in

<sup>23</sup> Register 63, October 1977; 18 AAC 75.340 (5) and (9).

<sup>24</sup> 1990 State Commission report, pg 45.

<sup>25</sup> *Chevron USA Inc. v. S. Hammond* (76 F2d 483).

<sup>26</sup> Register 79, October 1981; 18 AAC 75.350(1) and (4).

Appendix B are possible to attain.”<sup>27</sup> Lawn’s speculation was confirmed in March of 1989.

### Maritime Fiction

Those who were involved in the initial frenzy following the *Exxon Valdez* oil spill recall a phrase that has been attributed to several different individuals, and was likely spoken more than a few times:

“Alyeska’s oil spill contingency plan at the time of the spill was the greatest work of maritime fiction since *Moby Dick*.”<sup>28</sup>

Clearly, a disconnect existed between the state and federal regulations governing oil spill contingency plans and the actual system in place at the time of the *Exxon Valdez* oil spill. Alyeska was not able to meet the state planning standards to “rapidly contain and remove the discharge within 48 hours,” despite favorable weather during the initial days of the spill. They did not have enough equipment on hand to handle the spill that occurred, let alone the “maximum probable spill” of the tanker’s entire capacity. And the equipment at the Valdez Marine Terminal could not be “deployed and operational” within 12 hours because it was buried under a pile of snow.

The problem wasn’t a lack of regulations; it was that the regulations had not compelled an adequate oil spill response system. Therefore, as the Alaska legislature began to contemplate ways to strengthen state requirements, they confronted the same basic challenge that the technical team from ADEC had faced during their heated work sessions with the Norwegian spill response experts: *How can the state compel the industry to create and maintain sufficient spill response capacity to combat an Exxon Valdez scale event?*

<sup>27</sup> Alaska Oil Commission Report, 1990 (pg. 47).

<sup>28</sup> The authors have heard this quote attributed to both Dennis Kelso and Steve Cowper.

**“The notion that safety can be insured in the shipping industry through self-regulation has proved false and should be abandoned as a premise for policy. Alert regulatory agencies, subject to continuous public oversight, are needed to enforce laws governing the safe shipment of oil.”**

Alaska Oil Spill Commission Report (1990)

### Alaska’s Legislative Package

A legislative response to the largest tanker spill in U.S. history was inevitable, and both the State of Alaska and the federal government ultimately enacted a suite of new laws. As thousands of cleanup workers attempted to deal with the mess in Prince William Sound, a team of legislators and policy experts worked in Juneau to lay the groundwork for a regulatory fix.

There were several bills introduced into the sixteenth Alaska legislative session, in both houses. Of all of these, House Bill (HB) 567, which was introduced first into the House, and later moved through the Senate, is most closely associated with Alaska’s response planning system and the Prince William Sound oil spill response capacity that it created.

When the oil spill occurred, Alaska’s legislature was nearly through its first session (which ended May 9, 1989), and while there were a few initial bills that passed right away, such as restructuring the system of oil spill fines and penalties, the larger pieces would require more time. During the recess, the Alaska Oil Spill Commission had convened to conduct a detailed after-action analysis of the incident and what went wrong, along the same lines as the recently completed commission report into the Space Shuttle Challenger disaster. The commission report and those who were involved with it

provided a lot of input and direction to the legislative process.<sup>29</sup>

When the second session of the legislature reconvened on January 8, 1990, Governor Steve Cowper was ready with a suite of bills that focused specifically on oil spill response. While the final Oil Spill Commission report would not come out until February of 1990, many of the findings were already publicly known, and these helped to shape the legislative response. There was a great deal of tension in Juneau at the time, and there were a number of competing agendas ranging from the Oiled Mayors group, who were calling for swift and drastic reform, to senior legislators cautioning against hasty action. Due in part to differences in climate in the House and Senate, the process that unfolded involved most of the legislation being crafted in the House of Representatives.<sup>30</sup>

HB 567 was drafted by a working group spearheaded by Senator Drue Pearce, Chair of the Special Committee on Oil and Gas. The decision to move it through the House first was a practical one, to take advantage of a slightly less charged political climate. But the contents of the bill reflected input from legislators and their staff from both houses.

On February 22, 1990, the bill was passed into the House Rules and Finance Committee, and it proceeded from there through the Resources Committee and Finance Committee, before passing out of the House on April 30. Just over a week later, on the final day of the second legislative session of Alaska's sixteenth state legislature,<sup>31</sup> with only minutes to go before the clock struck midnight and the session adjourned, a

combined Senate-House bill was passed and was subsequently signed into law.

Along the way, there were numerous hearings,<sup>32</sup> meetings, and teleconferences. Legislative staff put in long hours, and members of the public delivered impassioned statements at hearings across the state. Participants in this process describe deliberate efforts to ensure that the bill retained broad enough appeal to ensure its passage.

At the same time, there was a push to make the law as specific as possible, so that there would be no room to water it down or otherwise alter the intent during the regulatory process. Written accounts of the HB 567 policy process often refer to the need for a "self-executing" statute. This concept is supported by an opinion from the Division of Legal Services and Legislative Affairs, which came out shortly after the legislation was passed, implying that aspects of the new law – including response planning standards and financial responsibility requirements – were explicit enough to be enforceable before regulations had been drafted.<sup>33</sup>

In recalling the process of negotiating the final bill, former Senator Pearce summed up their goal in terms similar to those used to design the Prince William Sound response system in the weeks after the spill: "At the end of the day, we needed a suite of bills that nobody loved but everybody could live with." Senator Pearce assigned David Rogers, an attorney on the legislative staff, to chair an informal working group to hammer out the

<sup>29</sup> Personal communication with Drue Pearce, October 19, 2017.

<sup>30</sup> Personal communication with Drue Pearce, October 19, 2017.

<sup>31</sup> May 8, 1990, as documented in <http://w3.legis.state.ak.us/docs/pdf/ROSTERALL.pdf>

<sup>32</sup> At the time, PWSRCAC staff and Board members were among those who provided testimony during legislative committee hearings.

<sup>33</sup> Memorandum from David E. Rogers to PWSRCAC, May 1, 1991 (client privileged communication, information used with permission).

contents of the bill.<sup>34</sup> Rogers, who specialized in brokering complex environmental laws and regulations, recalls this process as the most intense of his career. His recollection of the final month of that legislative session involves being stuck in a room for hours on end of tense deliberations, with the marching orders from Senator Pearce to “go figure it out and come out when you’re done.” Rogers recalls, “I’ve never been more exhausted.”<sup>35</sup>

***“And so we began, working night and day, sometimes in large general sessions going through various versions of the bill line by line; sometimes in subgroups hammering out specific compromises on tough issues... Representatives of industry, local governments, the Administration, House and Senate Committees, native corporations, environmental and other interest groups, the Alaska Oil Spill Commission and members of the public in general participated in these sessions.”***

David E. Rogers in a memorandum to PWSRCAC (May 1, 1991; reprinted with permission)

Most of the provisions in the bill reflect working group consensus and compromise. There was an implicit recognition that the “window of opportunity” for legislative action would not remain open indefinitely. Still, David Rogers reported that even after the bill passed, “there were lingering concerns, and further controversy and debate over regulatory interpretations of legislative intent and other issues was expected.”<sup>36</sup>

And of course, the Alaska legislature wasn’t the only such body making changes. While negotiations played out, key Alaska legislators were coordinating their efforts with their counterparts in Washington, D.C., attempting

to harmonize the Alaska state regulations with the emerging federal Oil Pollution Act. In a parallel effort, industry representatives were also coordinating their efforts in Juneau and D.C., continuing to try to manage the compliance burden for the new state and federal systems.<sup>37</sup>

### Key Provisions

Section 9 of the newly enacted law that began as HB 567 includes general requirements for oil spill contingency plans, and Section 10 establishes the planning standards. The law<sup>38</sup> includes several provisions that created new oil spill response planning standards that would be applicable in Prince William Sound:<sup>39</sup>

- Changed the performance standard for responding to an oil spill from the “shortest feasible time” to the “shortest possible time;”
- Created response planning standard for oil terminal facilities to contain or control, and cleanup a discharge equal to the capacity of the largest oil storage tank within 72 hours, with an opportunity for ADEC to require a higher planning standard volume in high risk areas;
- Required tank vessels or oil barges with a cargo of 500,000 barrels or more to have enough resources within the region of operation to contain or control, and clean up a 300,000 barrel discharge within 72 hours;<sup>40</sup> and

<sup>34</sup> Personal communication with Drue Pearce, October 19, 2017.

<sup>35</sup> Personal communication with David Rogers, September 26, 2017.

<sup>36</sup> Memorandum from David E. Rogers to PWSRCAC, May 1, 1991 (client privileged communication, information used with permission).

<sup>37</sup> Personal communication with Drue Pearce, October 19, 2017.

<sup>38</sup> AS 46.04.030.

<sup>39</sup> The law also addresses planning standards for exploration or production facilities and pipelines, but these are not discussed because they are beyond the scope of this report.

<sup>40</sup> AS 46.04.030(k)(3). For crude oil vessels under 500,000 barrels, the requirement is for a 50,000



- In addition to the 72-hour response standard, each contingency plan holder has to maintain either within or outside their region of operation additional resources to contain or control and clean up a realistic maximum discharge within the shortest possible time, and to demonstrate that out of region resources are accessible and will be deployed and operating at the discharge site within 72 hours.

***“The general principles underlying the development of the bill...can be the basis for interpreting the legislation and evaluating the implementation program when all else fails:***

- 1. The Legislature wanted enhanced protection from oil spills based on verifiable facts, reasonable assumptions and fair application of standards and other requirements;***
- 2. To the greatest extent possible, the new system should be set up so that everybody knows what is expected of them in advance with sufficient flexibility to deal with a variety of circumstances and changing technology; and***
- 3. Paperwork and related regulatory requirements should be adequate to protect the public interest but should not require excessive information submittals or unnecessary duplication of efforts and should encourage timely administrative action.”***

David E. Rogers in a memorandum to PWSRCAC  
(May 1, 1991; reprinted with permission)

Beneath each of these standards lies a complex web of negotiation and compromise that influenced the final word of law. And while many aspects of the law support the goal of “self-implementing” standards, there are a few areas where legislators kept the

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barrel discharge. A separate standard for non-crude tank vessels was also established.

statutory language vague enough to require additional work during the regulatory process.

### ***Crude Oil Tanker Standard***

The first of several “deal-breaking” issues that surfaced during the legislative process related to the question of planning volumes for crude oil tankers. Prior to HB 567, there had been a single response planning standard that applied to all types of operations. The new legislation specified planning standards based on the type of operation and the type of oil involved. The bill as passed required oil tanker operators with a capacity over 500,000 barrels to “contain or control and clean up” within 72 hours a 300,000 barrel spill.

This volume is a compromise from the original language proposed by Governor Cowper, which specified that plan holders must demonstrate that they can respond to a “tankerful within 72 hours.” The industry pushed back forcefully on this provision, and this controversy had the potential to bring the entire process to a standstill. The Cowper Administration is ultimately credited with breaking through on this issue, by establishing a “bottom line” of 300,000 barrels, which is slightly more than the volume of oil spilled by the *Exxon Valdez*.<sup>41</sup>

The 72-hour standard was more difficult to rebut. Marilyn Heiman, who was on the staff of the Alaska House Resources Committee when HB 567 was introduced, noted that the experience waiting for equipment to arrive during the *Exxon Valdez* oil spill had helped to ground truth the issue for political leaders. Day after day, they waited for equipment to arrive. “Nothing arrived. There was nothing there.”<sup>42</sup>

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<sup>41</sup> Memorandum to PWSRCAC from David E. Rogers, May 1, 1991.

<sup>42</sup> Personal communications, August 28, 2017.

The statutory language makes it very clear that these are *planning* and not *performance* standards, which was a critical distinction for industry. Planning standards establish criteria that must be demonstrated through contingency plans. However, there is no corresponding requirement that the identified equipment and systems perform to the contingency plan specifications. The planning standards ensure that operators have enough equipment in place to clean up a worst case spill, but fall short of requiring operators to demonstrate compliance by ensuring that the equipment performs to the contingency plan specifications.

### **Department Discretion and Prevention Credits**

There are several instances where the new law gives ADEC the discretion to adjust standards based on other risk factors. The department could, for example, adjust the planning standard in cases where a spill enters an environment other than open water. The rationale for this example would be instances where rapid clean up may do more harm than good.

The new law established the concept of prevention credits, where the department could make exceptions to planning standards in cases where a plan holder had prevention measures in place that might reduce the likelihood or severity of an oil spill – measures such as double hulls, secondary containment systems, or enhanced vessel traffic systems.

### **“Contain or Control”**

During the legislative process, the language for what needed to be accomplished in the first 72 hours changed from “contain and clean up” to “contain or control and clean up.” The reasoning here was to provide more flexibility from a tactical perspective, since sometimes a spill could be controlled by directing or funneling oil toward recovery

systems, rather than specifically containing it with encircled boom.

**“Alyeska will have to increase its capability significantly to satisfy the new law...more accurate factors must be developed to take into account various parameters influencing equipment performance such as available daylight, weather, historical skimming performance, response time, oil recovery strategy, rate of oil volatilization, losses in the water column, oil viscosity, emulsification, the overall thickness of the floating oil and the free water that is recovered in the oil. The uncertainty inherent in each of these factors argues against enshrining any particular efficiency rates in the regulations at this time.”**

Larry Dietrick, in a letter providing ADEC comments on draft HB 567 regulations (February 12, 1991)

### **Establishing Realistic Maximum Discharge Volume**

The new law broadly defined “realistic maximum discharge,” without attaching a specific number or formula for calculating the volume. The challenges in defining this term relate back to some of the give and take around establishing a 300,000-barrel spill volume rather than a full oil tanker storage volume for the purpose of planning standards. Clarifying how realistic maximum discharge would be determined was left to the regulatory implementation team, and was a source of considerable disagreement during that process.

### **Implementing Regulations**

Once the oil spill response planning standards were signed into law, ADEC was faced with the prospect of drafting regulations to implement these new standards. This process began in early 1991 with the formation of an HB 567 Implementation Technical Workgroup. Like the legislative process that created the new law, the process of developing regulations involved a great deal of discussion, discord, and ultimately, compromise.

PWSRCAC's internal records indicate the receipt of multiple drafts of regulatory language and supporting technical analysis between February and June 1991. The public review draft of ADEC's regulations was released on July 8, 1991, initiating a 45-day public comment period. The workgroup continued to meet during the development process and through the public review phase. PWSRCAC also worked actively to disseminate information through the media and public announcements, as well as direct mailings. The record from public hearings held in Anchorage and Juneau during August 1991 include comments from PWSRCAC staff active in the regulatory development workgroup. By the time the comment period closed in late August 1991, a significant body of comment and analysis had been created.<sup>43</sup>

Several issues related to Alaska's response planning standard were hashed out through the regulatory process, including: defining realistic maximum oil discharge; establishing technology requirements to meet the "contain or control and clean up" standard; operating assumptions for evaluating response planning standard compliance; use of non-mechanical response techniques; and prevention credits.

### **Defining Realistic Maximum Oil Discharge**

Defining realistic maximum oil discharge (RMOD) was one of the more controversial issues that the legislature passed along to ADEC during the regulatory process.<sup>44</sup> A number of approaches were considered, ranging from requiring each operator to

<sup>43</sup> PWSRCAC has compiled a comprehensive record of all of the documentation spanning the introduction of HB 567 in 1990 to its most recent legislative amendments in 2005. The record also documents the complete regulatory process. The resulting document, at 3,971 pages, is available in the PWSRCAC archives.

<sup>44</sup> See discussion on previous page under heading "Establishing Realistic Maximum Discharge."

develop a technical risk analysis to using a simpler across-the-board approach of largest possible release volume. According to House committee hearing records, the original term used was "worst case oil discharge," but this was changed to "realistic maximum" to open the door to a standard below the full bucket volume. It is important to remember that the legislature and ADEC were both looking at this issue more broadly than just for tankers, and this confounded the discussion, since total spill volumes and risks differ considerably for pipelines or production facilities compared to tankers.

The rulemaking process contemplated different volumes for the out-of-region standard before settling on 60 percent of the total cargo volume. This was an issue that PWSRCAC lobbied hard to keep at the full volume of the tanker. Industry had pushed for a lower standard (30 percent), so again the final result was a compromise.

***"How big a spill to plan for is the most controversial issue in these draft regulations. As written, contingency plans must start with the assumption that losing all of the oil in a tanker or barge is a realistic possibility. DEC is likely to get intense pressure to lower that standard. Alaskans need to let DEC and the Governor know that planning for a major oil spill less than the full contents of a tanker is unacceptable."***

Statement by PWSRCAC President Chris Gates,  
(June 1, 1991)

### **Best Available Technology**

The legislature also transferred the burden of establishing technology standards to the ADEC regulatory process. Even so, it was unclear to many whether ADEC was expected to prescribe specific design standards for oil spill recovery technologies, or whether they were going to allow for more flexibility. The dividing lines on this issue were not always clearly industry versus

government, as sometimes more prescriptive standards, even if strict, give the industry a level of predictability that they do not always have when regulators apply a more flexible approach.

### **Planning Standard Assumptions**

While the response planning standards created by HB 567 were clear, they did not address variables or assumptions concerning weather conditions, operational periods, actual recovery rates (rather than manufacturer nameplate recovery rates), and other more practical issues. The topic of assumptions was strongly debated during the regulatory development process. The legislature had been provided with some general assumptions (such as 12 hour per day operations and 30 percent de-rating of skimmer nameplate<sup>45</sup>) during the legislative process, and there was some disagreement as to whether these were offered as examples or intended to be carried through into regulatory requirements.

### **Non-Mechanical Response**

There was significant debate during the regulatory process regarding whether non-mechanical response techniques (dispersants or in-situ burning) would be allowed to meet the “contain or control and clean up” requirement. In the end, the standard focused on mechanical recovery as the primary response measure.

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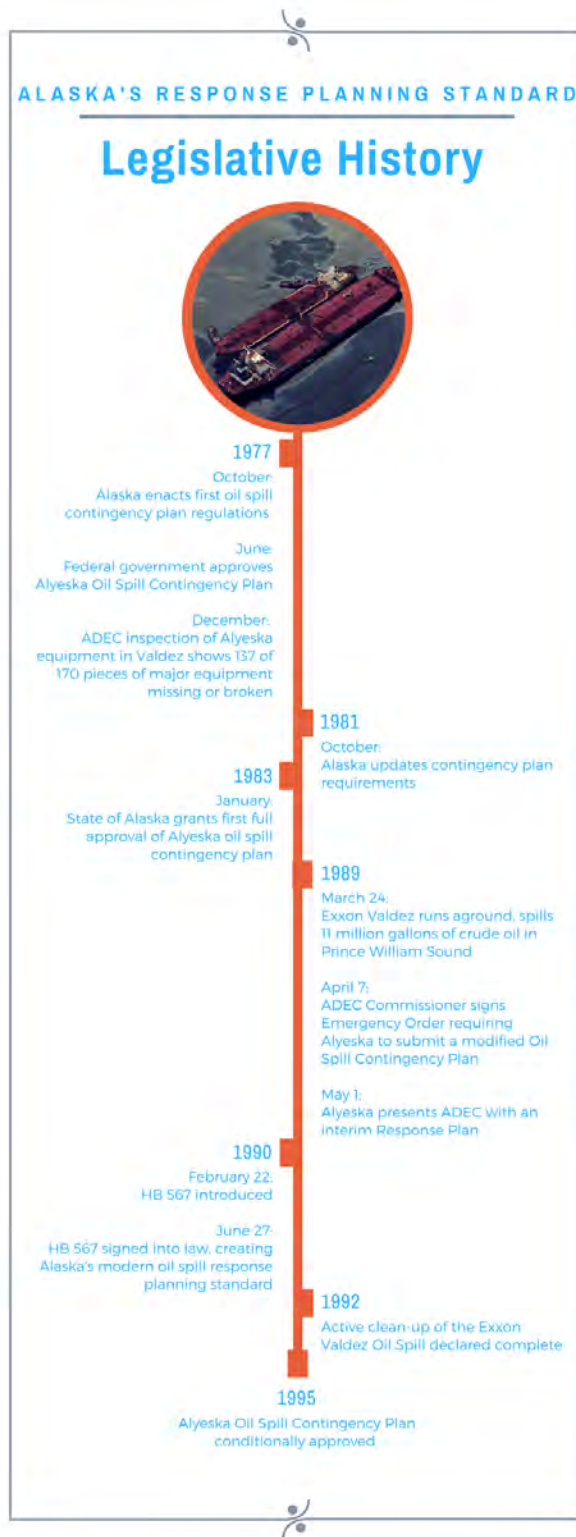
<sup>45</sup> De-rating of skimmer capacity is a common practice in oil spill contingency planning. When manufacturers develop oil skimmers, they are assigned a “nameplate” recovery capacity through a standard evaluation process involving operation of the skimmer in test tanks. To account for the fact that oil spill skimming systems rarely perform to the standards achieved during tank testing, their performance is often de-rated, or reduced by a standard percentage, to represent the efficiency losses that often happen in real world conditions. Thus, a 30 percent de-rating for a 100 barrels-per-hour skimming system would be 30 barrels-per-hour.

### **Prevention Credits**

During the regulatory process, there were disagreements regarding the intent of prevention credits, and specifically whether prevention measures already required by law should be eligible for such credits. ADEC tended to view the purpose of these credits as incentivizing additional measures rather than reducing planning standards for measures that were already required. Others insisted that the legislative intent behind this provision was to provide a system for recognizing and awarding risk-reduction measures, regardless of whether they were required by law. If an operator had measures in place to reduce oil spill risks, they should be rewarded with a lower planning standard.

Some considered prevention credits to pose a threat to the overall goal of enhancing response capabilities, since theoretically such credits could erode the spill response capacity compelled by the new laws and allow the industry to end up back where they were before HB 567 was enacted. Nonetheless, the incorporation of prevention into the new regulatory framework was viewed as an important component to creating a safer system overall.

## 5. What Alaska Achieved



The *Exxon Valdez* oil spill legislative process is fascinating on many levels. The spill created an imperative for legislative change, but arguably, the immediate actions that the State of Alaska took – namely, the Emergency Order and resulting re-imagination of the Prince William Sound response system – probably had the most significant impact on how the resulting changes came about.

### Response System Pre- and Post- HB 567

The table below shows how the adoption of the HB 567 response planning standards drove a significant enhancement to spill response equipment in Prince William Sound. This comparison highlights how critical the spill volume is to driving a robust resident response capacity.

The creation of a capacity-based response planning standard drove a more systematic approach to developing oil spill response capacity. Prior to the new standards, equipment stockpiles were literally piles. The planning standard drove technical experts like the Norwegian/Alaskan team and the Alyeska group to look at the problem differently – how to assemble a force that could control and recover a specific volume within a specific timeframe. This lends itself to calculations that factor in recovery capacity, storage, and timing. Not only did the planning standard drive the industry to stockpile more equipment, it provided a framework for both industry and regulators to evaluate capacity in a straightforward and transparent manner.

The systematic approach also addressed other shortcomings illustrated during the 1989 spill – the need for trained people, well maintained equipment, and a common understanding about how response is organized and implemented.

Equipment and Requirements in Prince William Sound	Pre-1990 Response Planning Standard	Post-1990 Response Planning Standard
<b>Planning standard</b>	Pickup or remove median discharge in 48 hours, maximum probably spill in shortest time feasible	Contain or control and clean up within 72 hours a 300,000 barrel spill
<b>Boom</b>	~5 miles	~50 miles
<b>Skimmers</b>	13 units	~110 units 60,000 barrels per hour capacity
<b>On-water storage</b>	~12,000 barrels	~900,000 barrels
<b>Escort tugs</b>	Single escort for laden tankers through the narrows	Dual escorts throughout Prince William Sound
<b>Other equipment</b>	None	Pre-positioned equipment caches throughout Prince William Sound; nine additional prevention and response tugs

### Pick a Number

There are two very important numbers (besides 567) that come up again and again in the response planning standard legislative history: 72 and 300,000. According to numerous sources involved in the process, both are directly tied to the *Exxon Valdez*, both reflect significant discussion and compromise, and both are ultimately somewhat arbitrary.

Steve Cowper reflected that one of the major lessons of the *Exxon Valdez* was that “if you had that stuff you had to have it ready to go.”<sup>46</sup> The 72-hour standard that HB 567 created seems to have originated during the technical sessions in Valdez in the days after the spill, when experts from ADEC and the Norwegian Coastal Administration put their heads together to re-imagine a system that might have effectively combatted the spill.

<sup>46</sup> Personal communications with Steve Cowper, September 29, 2017.

They recognized the opportunity lost during the initial hours and days of the oil spill, when floating oil could have been contained and recovered before it began to thin and spread for hundreds of miles. Creating an immediate response capacity close enough to a possible spill site to mitigate the slick before it gets out of hand would require a time-bound planning standard. Three days, with a tiered capacity, seemed to strike the right balance.

**“I used...[72 hours]...because I was told to.”**

John McDonough, attorney, to Alaska House Resources Committee (February 26, 1990)

The 300,000-barrel standard was more a case of “nobody won, nobody lost.” The planning standard volume adopted into law and regulation was a compromise between those who wanted to build a response system that could handle the full volume of

the largest tankers coming into Valdez and those who feared such a system was financially and technically unfeasible.

The Cowper Administration and the technical experts from ADEC were firm in their beliefs that there had to be a hard number for the maximum spill volume and it had to be a large enough volume to compel equipment along the lines of the systems created by industry for the Interim Plan. In the end, they settled at an even number that was basically the *Exxon Valdez* oil spill volume rounded up. The 300,000-barrel standard was hard to shoot down, since it reflected an actual, recent, worst-case event.

Marilyn Heiman, who worked on the legislative staff for the Alaska House during the development of HB 567 and later on the regulatory process, observed that without a clear standard, compliance is determined based on subjective review. A clear standard corrects for regulator bias and creates a more predictable compliance framework for the regulated industry.<sup>47</sup>

Dennis Kelso, former ADEC Commissioner, frames this issue as one of perspective. Prior to the *Exxon Valdez* oil spill, the party line was that “industry is taking care of it.” The spill provided a rude awakening for stakeholders who assumed that “taking care of it” equated to being capable of cleaning up any spill they created. From industry’s perspective, “taking care of it” meant meeting the commitments in their contingency plan to maintain minimum equipment stockpiles. One of the accomplishments of measurable standards is that they create a common understanding of what is and is not going to be taken care of.

### Incentivizing Prevention

The realistic maximum oil discharge volume, which was established after much debate to

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<sup>47</sup> Personal communications, August 28, 2017.

be 60 percent of the total tanker cargo volume, ended up providing a powerful incentive for oil spill prevention. One of the major findings to come from the 1990 Alaska Oil Spill Commission Report was the importance of prevention, in light of the significant challenges to cleaning up marine oil spills. The additional out-of-region planning standard became the baseline for allocating prevention credits,<sup>48</sup> which allow a plan holder to plan for a reduced realistic maximum oil discharge volume if certain prevention systems are in place.

One of the changes that HB 567 introduced was to change the terminology for spill plans from oil spill contingency plans to oil spill contingency *and prevention* plans.

### Tiered Approach

The regulations established two different standards, similar to the tiered approach used in the Alyeska Interim Plan. An initial response planning standard required that operators have sufficient capacity to contain and recover 300,000 barrels in 72 hours. An additional layer requires sufficient resources available from out-of-region to clean up a spill of 60 percent of the total vessel cargo.

The system of prevention credits may be used to reduce the 60 percent volume, but cannot work around the 300,000 barrels in 72 hours standard. Conversely, the prevention credits are capped to ensure that no operators can use this incentive to zero out their out-of-region response planning standards.

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<sup>48</sup> Prevention credits are intended to create an incentive for operators to adopt prevention measures, which otherwise might not yield any tangible benefits to the company bottom line. There are differing opinions as to whether they have been successful.

## Chicken and Egg

The legwork that occurred in the wake of the Exxon Valdez created a bit of a head start for the legislative teams, who had a tangible example in hand of a standard (ADEC's Emergency Order) that could compel a significantly enhanced response system (Alyeska's Interim Plan). There was certainly robust and in-depth debate during both the HB 567 legislative process and subsequent rulemaking. But it could be argued that the foundational work that was done in March-April 1989, itself predicated on the details of the spill and the failed response, all worked together to create the system still in place today.

***"Nobody got everything they wanted, but in the end we all got something we could live with."***

Michael Williams, former BP attorney (9/25/2017)

## Planning vs. Performance

Much of the discussion about response standards emphasized that Alaska was establishing a standard for planning, rather than performance. This is essentially the same approach taken by the federal government under the Oil Pollution Act of 1990, and the foundation of oil spill preparedness in the United States.

While Alaska's response planning standard was successful in building a much larger, better maintained, geographically distributed cache of oil spill response equipment, no planning standard can guarantee that an oil spill will not still cause considerable harm.

Industry experts raised the point many times during the HB 567 process that the additional capacity being added to the Prince William Sound system is no guarantee that 300,000 barrels of oil would actually be contained and recovered during the first three days of a spill response. There are still a number of practical and logistical challenges associated with major marine oil spill response that were not solved by the creation of a stronger response planning standard.

Nonetheless, without a standard that requires sufficient equipment available close enough to rapidly deploy, there is no question whether the spill cannot be mitigated. If there is no equipment nearby, there is no immediate response.

The strong focus on in-region equipment that carried forward from the Emergency Order to the regulations as implemented ensured that there will be equipment nearby in Prince William Sound the next time it is needed.

**Given the nature of catastrophic spills, it is not expected that the response planning standards in HB 567 can be reflected in actual performance. It is doubtful 300,000 barrels could be completely cleaned up and that all needed equipment can be on scene within a 72 hour period. Throughout the legislative and regulatory development of HB 567, the regulated community has repeatedly stressed that the expectations in HB 567 are beyond the capability of technology and historical basis. For example, oil will elude containment and cleanup efforts; some oil will go ashore; weather, malfunctions and human performance will compromise efficiency, and all will contribute to an effectiveness that may be less than that which can be shown in a theoretical, mathematical planning model. Experience shows that a catastrophic spill will result in a long term (i.e., over many months or even longer) clean-up, which will be the "shortest practical time."**

*Excerpt from Chapter 4, "Process Engineering," in a report prepared by ECO Consulting that ARCO Marine, Inc. submitted to ADEC on October 1, 1993 regarding compliance with new state regulations*



## 6. Learning from History

Like the oft-quoted line about the Alyeska oil spill contingency plan and *Moby Dick*, there is another famous quote that is attributed to various parties. The Spanish philosopher George Santayana is generally believed to have originated a saying made famous by Winston Churchill, among others:

“Those who cannot learn from history are doomed to repeat it.”

This concept is certainly applicable to the issue of oil spill planning standards in Prince William Sound. Of the hundreds of people who had their hands in this process, the handful that were interviewed for this report returned to several common themes.

### Timing is Everything

It is an unfortunate but well-established fact that most of the environmental policy in place in the U.S. today was born of a major catastrophe.<sup>49</sup> The *Exxon Valdez* oil spill was a galvanizing event that created an imperative without which the current oil spill response planning standards – both in Alaska and federally – might not exist.

Regarding the impetus for legislative action, Steve Cowper observed, “If you strike at the right time you can get some results.”<sup>50</sup>

Dennis Kelso, Commissioner of ADEC at the time of the spill, offered that the *Exxon Valdez* had been a “major realigning event” for both Alaska and the U.S.

Much like the window-of-opportunity for mounting an effective on-water oil spill

response, the chance to move from environmental catastrophe to policy change is time bound. Eventually, public and political will dissipates and the opportunity is lost.

### Team of Rivals

In the wake of the spill, the term “complacency” was tossed around in the media, the legislature, and among stakeholders harmed by the spill. There was no denying that the system had failed, and this compelled a multilateral process to change it. Mike Williams, who worked for BP at the time, describes the process as “many different teams working toward the same goal.” Steve Cowper recalls that the industry could not afford to come out too aggressively against the state’s initiatives, because they had lost so much public trust after the oil spill.

Certainly, the industry representatives who worked on this issue along the way were advocating for the least burdensome changes, while regulators and stakeholders were pushing for the highest possible standards. But there was a general acceptance that changes would take place and this helped everyone to focus on the substance of those changes. From the initial strategy sessions within ADEC and later by the Alyeska technical team that put together the Interim Plan, there was a strong focus on the system elements that should be in place. The level of compromise and the underlying tensions were real, but the oil spill had created a strong enough imperative to keep the process moving forward toward concrete objectives.

<sup>49</sup> For example, the Clean Water Act is often attributed to the heavily polluted Cuyahoga River in Cleveland catching fire in 1969. <https://www.alleghenyfront.org/how-a-burning-river-helped-create-the-clean-water-act/>

<sup>50</sup> Personal communications with Steve Cowper, September 29, 2017.

***“Opinions as to what to include in the bill were so diverse that compromise seemed impossible. Senator Pearce resolved this conundrum by locking Riki [Dr. Riki Ott, with Cordova District Fishermen United] and me in a room and threatening to throw away the key if we didn’t reach a compromise. After many days, with David Rogers acting as moderator, compromise language was thrashed out. The language reflected the task force’s plan, plus a lot of additional protection for villages and hatcheries. Both Riki and I were ostracized by our respective constituencies for the compromise, but much of the legislation that emerged from that compromise was then used by U.S. Sen. Frank Murkowski as a basis for OPA 90, the federal Oil Pollution Act that governs oil transportation in the U.S. today.***

***I hope Riki is as proud of that effort as I am.”***

Mike Williams of BP during the HB 567 process, in “How the Exxon Valdez spill gave birth to modern oil spill prevention plans,” Alaska Dispatch News (March 18, 2014).

In addition to the tensions between stakeholders, industry, and regulators, there were also significant tensions among the oil companies represented in the Alyeska consortium. Both the legislative record and the rulemaking process provide examples of how the various oil companies involved did not always share the same positions or priorities. Drue Pearce reflected that one of the key takeaways for the State of Alaska from the post-spill legislative process should be the incredibly “unwieldy” structure of a consortium-run pipeline.

The legislative process brought many of the more contentious issues to a head and was where the some of the most heated discussions occurred and the most significant compromises struck. Republican and Democratic legislators worked closely together, united by outrage at the spill and its impacts to their constituents. Drew Pearce noted that the process of accommodating so many divergent opinions made the process

challenging, but in the end helped the workgroup to make the “most informed decisions possible.” The outcome was a successful legislative package that achieved its goal of compelling a more robust oil spill response system in Prince William Sound and statewide.

### Scanning the Globe

The Sullom Voe Terminal in the Shetland Islands was a frequent topic of discussion during interviews for this report. During the time period immediately after the spill through implementation of the new statutes, several key individuals, including Drue Pearce, Governor Cowper, and Mike Williams, took field trips across the globe to see firsthand what a major marine oil spill response system looked like outside of the U.S. What they observed helped to ground future discussions and counter some of the industry arguments that the proposed standards were not achievable.

Steve Cowper recollects quietly visiting Sullom Voe and talking with U.K. spill response experts about their standards, which he described as being “much more responsible” than anything in place in Alaska or the U.S. He credits this visit and the technical information gleaned by the Alaskan delegation as being important to ground truthing future discussions, and shutting down some of the counter-arguments that Alaska was setting the bar too high.<sup>51</sup>

Looking beyond the U.S. context can be extremely useful in evaluating oil spill response planning requirements, given that shipping is a global industry. While the Prince William Sound oil spill response system is often referenced as an example of world class response preparedness, there are other ports across the globe with comparable or more stringent standards in place.

<sup>51</sup> Personal communication with Steve Cowper, September 29, 2017.

## Transparency

The Cowper Administration and ADEC leadership are both to be credited for leveraging transparency as a way to hold Exxon and Alyeska accountable during the spill response. This in turn influenced a contingency planning process that is significantly more transparent than the federal process, and a response system that includes active participation from local stakeholders.

In the initial hours of the oil spill, Steve Cowper and Denny Kelso climbed a rickety ladder to board the *Exxon Valdez*, with fresh oil bubbling out of her hull. Their immediate reaction was “where is everybody?” and “why isn’t anybody doing anything?” There were two boats on the water “towing boom in circles” while the spill gushed out, virtually unabated. The two flew from there to a community meeting in Valdez, where they began a campaign to share the “unvarnished truth” at every possible opportunity.

Occasionally, there would be press briefings or public meetings where Exxon and Alyeska would share information about where equipment was being sent. The state validated this with information gathered during their own overflights, and shared what they knew with the public, even if it didn’t support Exxon’s messaging.

When there was an extra seat on an overflight, the state brought a local fisherman or community leader along. At a community meeting early on in the spill, when somebody theorized that they would be more effective by getting the local fishing fleet out there with nets and buckets, the state provided the support to make it happen. Eventually, Alyeska/SERVS modeled a fishing vessel response program in its likeness, and the same program is still several hundred vessels strong.

One of the most important aspects of Alaska’s oil spill contingency planning

regulations is the provision for public review of all planning documents. There are many regimes where contingency plans are kept out of the public realm, which can create a lack of trust and accountability. In Alaska, anyone who wants to understand what the Prince William Sound shipping companies, or any oil operator, plans to do in the event of a spill has the opportunity to read and – during public comment periods – provide feedback to industry and regulators.

## State and Federal Synergy

There is very little in the formal record to document the coordination between the legislative processes in Washington, D.C., and Alaska, but based on interviews with several of the firsthand participants, the two processes were closely linked.

Given the state/federal pre-emption lawsuits that have traditionally created tension between state and federal governments in the realm of tanker operations (e.g., *Chevron vs. Hammond*), it would not have been surprising if there had been discord between Alaska’s efforts and those of the U.S. Congress. But Steve Cowper recalls just the opposite – he felt that Alaska was compelled to demonstrate to Washington that the state was doing everything in its power to fix the problems that the *Exxon Valdez* spill uncovered, and that there was an alignment of the parallel efforts.

Drue Pearce has a similar recollection, and noted that staffers from her committee were in frequent contact with their counterparts in D.C., sharing drafts of the Alaska bills as they were revised. She also recalls a strong link through U.S. Coast Guard leadership in Alaska and D.C.

Industry participants also had a stake in coordinating the state and federal efforts, and there was another level of communication and coordination among industry advocates in Juneau and Capitol Hill.

Stakeholders, activists, and the newly formed regional citizens advisory councils also took an active role in the regulatory process and in promoting public participation and informed debate throughout the process.

### **Pride of Accomplishment**

Individuals interviewed for this report included present and former politicians, legislators, industry representatives, technical experts, and ADEC staff. They each provided their reflections on the events they lived through during 1989-1991, and their perspectives shaped the narrative in this report.

There was one striking similarity across all interviews – each and every individual expressed a personal sense of pride in what had been accomplished. Most of the events that were discussed occurred over 25 years ago, and some details were harder to recall

than others. But without fail, each of these remarkable individuals – all of whom went on to have substantial success in their respective fields – looked back on HB 567 as a proud achievement and a highlight of their careers.

Mike Williams took the time to write an opinion piece for the *Alaska Dispatch News* on the 25<sup>th</sup> anniversary of the *Exxon Valdez* spill, reflecting back on the late nights at the Captain Cook Hotel as establishing the “core parameters of a 100-page plan that became the foundation of all modern spill response plans.” He continued, “During those two days at the Captain Cook Hotel in April 1989 I don't think any of us could have imagined that outcome.”

David Rogers, who many credit with closing the deal in the legislature, recalls a “beautiful experience” despite the high stakes and strong emotions.

## **7. Conclusion**

This report collates the written record with personal recollections to describe the imperative behind Alaska's oil spill response planning standards.

On face value, the legislation itself paints a clear picture of the intent behind the oil spill planning and response law and the regulatory framework it created. In order to ensure an adequate capacity to respond to oil spills anywhere in Alaska, industry must equip, train, and exercise a system that can assure rapid and robust initial response, followed up by a long-term plan to bring in equipment and people to manage a worst case spill.

Nearly thirty years have elapsed since the *Exxon Valdez* oil spill, and the sense of urgency experienced in the days, weeks, and years spent cleaning up from that spill has faded from the collective memory. It is critical that future leaders, both in industry and government, remain cognizant of the

history that underlies the present oil spill contingency planning system. Alaska's response planning standard was a hard-won accomplishment of a diverse group in the wake of a life-changing disaster. If there is ever any question as to its value, one might imagine the fallout if a tanker were to run aground tomorrow, while a meager equipment pile lay frozen under 10 feet of snow.

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# EXHIBIT 3

Excerpt from Alaska Regional Contingency Plan  
(August 2018)

# Alaska Regional Contingency Plan

Version 1

FINAL  
August 2018

<http://dec.alaska.gov/media/10698/alaska-regional-plan.pdf>





# Alaska Regional Response Team

August 9, 2018

## ARRT

Environmental  
Protection Agency

United States Coast  
Guard

Department of  
Commerce

Department of the  
Interior

Department of  
Agriculture

Department of  
Defense

Department of Justice

Department of Health  
and Human Services

Federal Emergency  
Management Agency

General Services  
Administration

Department of Energy

Department of Labor

Department of  
Transportation

State of Alaska

Dear Recipient:

Attached is the Alaska Regional Contingency Plan (RCP). This RCP serves as guidance to planners preparing for a coordinated Federal, State, and local response to a discharge, or substantial threat of discharge of oil and/or a release of a hazardous substance from a vessel or on/offshore facility operating within Alaska's boundaries and surrounding waters. The State and Federal On-Scene Coordinators shall use this guidance, in conjunction with the National Contingency Plan, to inform and support the Area Committee within each planning area in building their respective Area Contingency Plan.

The RCP is compliant with Section 300.210 of the National Contingency Plan and Alaska Statute 46.04.200.

The Alaska Regional Response Team, under the direction of the Co-Chairpersons, will review the RCP annually and update as necessary. We welcome your ideas to improve the plan. Please direct your correspondence to the following addresses:

The Alaska Department of Environmental Conservation  
Prevention, Preparedness and Response Program  
555 Cordova Street  
Anchorage, AK 99501

U.S. Coast Guard, Seventeenth District  
Plans and Force Readiness Division (dx)  
P.O. Box 25517  
Juneau, AK 99802-5517

U.S. Environmental Protection Agency, Region 10  
Alaska Operations Office, Federal Building (Room 537)  
222 West 7th Ave, #19  
Anchorage, AK 99513

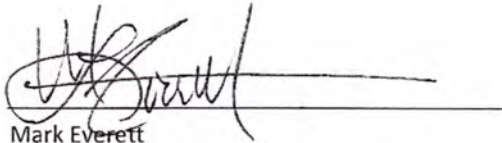
The RCP supersedes the *Alaska Federal/State Preparedness Plan for Response to Oil & Hazardous Substance Discharges/Releases (Unified Plan)*.

This plan and updated versions will be available on the following websites:

<http://www.alaskarrt.org>

<http://dec.alaska.gov/spar/ppr>

This document is hereby approved by the Co-Chairpersons of the Alaska Regional Response Team (ARRT).

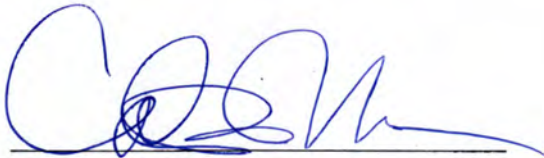


Mark Everett

U.S. Coast Guard, Seventeenth Coast Guard District  
U.S. Coast Guard Representative to the ARRT

9 AUG 2018

Date

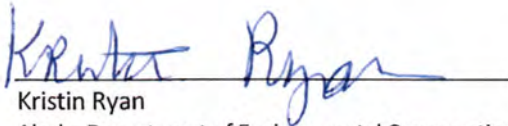


Calvin Terada

U.S. Environmental Protection Agency, Region 10  
U.S. Environmental Protection Agency Representative to the ARRT

14 Aug 2018

Date



Kristin Ryan

Alaska Department of Environmental Conservation  
State of Alaska Representative to the ARRT

9 Aug 2018

Date

• • • •

- Identification of facilities and transportation routes;
- Establishing emergency response procedures for public notification and protection, including evacuation;
- Establishing notification procedures for those who will respond;
- Establishing methods for determining the occurrence and severity of a release;
- Identification of emergency response equipment;
- A program and schedule for training local emergency responders;
- Establishing methods and schedules for exercises;
- Designating a community emergency coordinator and facility emergency coordinators to carry out the plan;
- Describing an Incident Command System; and,
- Integration with other state-required plans and consideration of elements within approved oil discharge prevention and contingency plans.

Although original federal requirements focused LEPC planning and preparedness efforts on Extremely Hazardous Substances (i.e., chemicals, not oil), on September 25, 1990, the Alaska Legislature and the Alaska State Emergency Response Commission broadened that focus to include oil and petroleum products.

Per AS 26.23.060(e), “each political subdivision shall ensure that a written local or inter-jurisdictional disaster emergency plan for its area is prepared, maintained, and distributed to all appropriate officials. This disaster emergency plan must include a clear and complete statement of the emergency responsibilities of all local agencies and officials.”

## **C. AUTHORITY**

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### **1. Federal**

The RCP is developed pursuant to Sections 300.210 of the NCP. The NCP is required by Section 105 of CERCLA, as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), by Section 311(d) of CWA, as amended by OPA. The ESF 10 components of this plan are required by the Robert T. Stafford Disaster Relief and Emergency Act (Public Law 93-288), as amended. The RCP is applicable to response actions taken pursuant to the authorities under CERCLA, Section 311 of CWA, and OPA. The NCP requires establishment of RRTs, which are responsible for Regional planning and preparedness activities before response actions, and for providing advice and support to the RRT when activated during a response.

OPA 90, section 4202 amended Subsection (j) of Section 311 of the Federal Water Pollution Control Act (FWPCA; 33 U.S.C. 1321 (j)) to address National Planning and Response System development. As part of this system, Area Committees are to be established for each area designated by the President. These Area Committees are to be comprised of personnel from federal, state, and local agencies. Each Area Committee, under the direction of the Federal On-Scene Coordinator (FOSC) and State On-Scene Coordinator (SOSC) for the area, is responsible for developing an ACP, which when implemented in conjunction with the NCP, shall be adequate to remove a worst case discharge and mitigate or prevent a substantial threat of such discharge from a vessel, offshore facility, or onshore facility operating in or near the geographical area. Each Area Committee is also responsible for working with state and local officials to preplan for joint response efforts, including designing appropriate procedures for mechanical

recovery, chemical dispersal, shoreline cleanup, protection of sensitive environmental areas, and protection, rescue, and rehabilitation of fisheries and wildlife. The Area Committee is also required to work with State and local officials to expedite decisions for the use of dispersants and other mitigating substances and devices.

The functions of designating areas, appointing Area Committee members, determining the information to be included in ACPs, and reviewing and approving ACPs have been delegated by Executive Order 12777 of 22 October 1991 to the Commandant of the U.S. Coast Guard (through the Secretary of Transportation) for the coastal zone and to the Administrator of the Environmental Protection Agency for the inland zone. The term "coastal zone" is defined in the current NCP (40 CFR 300.5) to mean all United States waters subject to the tide, United States waters of the Great Lakes, specified ports and harbors on inland rivers, the waters of the Exclusive Economic Zone (EEZ), and the land substrata, ground waters, and ambient air proximal to those waters. The term "inland zone" is defined in the current NCP to mean the environment inland of the Coastal Zone. These terms delineate an area of responsibility for response action. Precise boundaries are determined by existing federal and State agency memoranda of understanding/agreements (MOU/MOA). Part 4 of this plan contains current MOUs and MOAs regarding coastal and inland zone response boundaries.

In Volume 57, Federal Register Notice 15001 published on April 24, 1992, the EPA and USCG jointly announced the Designation of Areas and Area Committees under OPA for inland and coastal zones. Due to the split of jurisdiction and responsibilities between EPA and the USCG and the inherent differences in organizational structure of the two agencies, each agency took separate but compatible approaches in establishing initial designations. Nationwide, the EPA designated the existing 13 "RRT areas" as the initial areas for which ACPs must be prepared in the Inland Zone, while the USCG designated the coastal portions of the existing Captain of the Port (COTP) zones as the initial areas for which ACPs must be prepared in the Coastal Zone. In Alaska, this has the effect of initially establishing one statewide inland area by EPA and three coastal areas, corresponding to the boundaries of the three USCG COTP zones. Both EPA and USCG have authority to further subdivide initial Areas, both coastal and inland, into smaller, more localized areas for which ACPs can be developed. See Parts 1.D and 1.E of this plan for specific areas.

Also, per the National Contingency Plan, the Department of Defense (DOD) and the Department of Energy (DOE) shall provide their own FOSCs, who will be responsible for taking all response actions to releases of hazardous substances, pollutants, or contaminants when the release is on, or the sole source of the release is from, any facility or vessel (including bareboat-chartered and operated vessels) under their jurisdiction, custody or control.

## **2. State**

The State Oil and Hazardous Substance Discharge Prevention and Contingency Plan (State Master Plan) was prepared by the Alaska Department of Environmental Conservation (ADEC) as required by AS 46.04.200. The State Emergency Response Commission (SERC) reviews the plan as required by AS 26.23.077.

Under AS 46.03.020(10)(A), the ADEC is empowered to adopt regulations providing for the control, prevention, and abatement of all forms of pollution.

.....

In 1980 legislation was enacted which defined the State's policies regarding oil spills. The purpose of this law is to provide for the safety and protection of human health and welfare of Alaskans from damage resulting from oil spills and to provide the ability to clean up a spill and restore damaged areas.

The Findings and Intent section of Chapter 116 SLA 1980 ("An Act relating to the prevention and control of oil pollution; and providing for an effective date") clearly sets forth state policy:

- It is a matter of the highest urgency and priority to protect Alaska's coastal and inside water, estuaries, wetlands, beaches and land from the damage which may be occasioned by the discharge of oil;
- The storage, transfer, transportation and offshore exploration for and production of oil within the jurisdiction of the State are hazardous undertakings; oil discharges may cause both short-term and long-term damage to the environment and the beauty of the state, to owners and users of affected property, to public and private recreation, to residents of the state and other interests deriving livelihood from fishing, hunting, tourism and related activities;
- Assuring sufficient capability, among industrial and commercial interests, and the State and federal governments, to contain and clean up discharges of oil is of vital public interest; weather conditions, logistic constraints and the relative paucity of labor and equipment resources in the state increase the difficulty of oil discharge containment and cleanup in Alaska, making imperative an active State role;
- It is the policy of the State that, to the maximum extent practicable, prompt and adequate containment and cleanup of oil discharges is the responsibility of the discharger; it is therefore of the utmost importance to assure that those engaged in oil storage, transfer, transportation, exploration and production operations have sufficient resources and capabilities to respond to oil discharges, and to provide for compensation of third persons injured by those discharges; and
- The State should continue its cooperative relationships with appropriate federal agencies, protecting its legitimate interests while working to remove any duplicative or potentially conflicting regulatory activities.

In 1989, legislation was enacted by the Alaska Legislature to further strengthen the State's capability to deal with oil spills:

Findings and purpose:

- The Legislature finds that the March 24, 1989 oil spill disaster in Prince William Sound demonstrates a need for the State to have an independent spill containment and cleanup capability in the event of future discharges of oil or a hazardous substance.
- The purpose of this Act is to assure people of the state that their health, safety and well-being will be protected from adverse consequences of oil and hazardous substance releases that present grave and substantial threats to the State's economy and environment.

In 1990, the law was revised again. In order to meet the goal of protecting Alaska's people and environment, AS 46.04.200 set forth required Plan elements:

- To take into consideration the elements of an oil discharge contingency plan approved or submitted for approval under AS 46.04.030;

- To include an incident command system that clarifies and specifies responsibilities for State, federal, and municipal agencies, facility operators, and private parties whose property may be affected by a catastrophic oil and/or hazardous substance discharge;
- To identify actions necessary to reduce the likelihood of catastrophic oil discharges and significant discharges of hazardous substances.

Alaska Statutes, Sections 46.04.200-210 specify state requirements for Oil and Hazardous Substance Discharge and Prevention Contingency Plans. This RCP, along with the ACPs, were written with the goal that they would meet both federal and State planning requirements in Alaska.


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# EXHIBIT 4

Petroleum News - Alyeska to shrink workforce by 10 percent as company restructures (September 9, 2018)



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Providing coverage of Alaska and northern Canada's oil and gas industry  
September 2018

Vol. 23, No.36 Week of September 09, 2018

## Alyeska to shrink workforce by 10 percent as company restructures

Alan Bailey  
*Petroleum News*

Alyeska Pipeline Service Co., the operator of the trans-Alaska pipeline, expects to shrink its workforce by 10 percent in conjunction with a major restructuring of the company. Tom Barrett, the company president, has announced in a letter to Gov. Bill Walker, Alaska legislators and state commissioners. The job losses will impact both company employees and contractors.

Barrett said that following an initiative launched in 2017, to investigate ways whereby Alyeska could remain technically and economically viable through the coming decades, the company had developed a plan that would simplify processes by focusing on maintenance; would optimize the company's operating infrastructure; would continue with technical innovation; and would strengthen the company's high performance culture.

Barrett commented that, directly or indirectly, his company primarily engages in activities focused on the maintenance of the pipeline and Valdez Marine Terminal infrastructure. However, the manner in which the company is currently organized is more appropriate for a construction company, he said. Consequently, the company is realigning into three divisions: operations and maintenance; engineering and risk; and chief operating officer. The leadership is already in place for this reorganization and has begun planning how to implement the new business strategy. This strategy includes the clarification of decision authority and the delegation of decision making to managers in the field, expediting decision making and actions through the empowerment of people in the work environment.

### Simplified processes

The new strategy also involves simplifying maintenance processes, to better identify high priority work while also applying risk-based decision criteria for completing that urgent work and conducting other maintenance work quickly and efficiently. The company plans to use its engineering and risk management expertise to improve and strengthen its technical controls. And the emergency planning and response functions for the pipeline, the marine terminal and the marine escort system out of Valdez will be centralized. The company will continue to expand the use of modern technology.

Most jobs in the company will be impacted in some way by the various changes, and the size of the workforce will drop, with negative impacts for some and new opportunities

for others, Barrett wrote. Alyeska anticipates notifying all employees by early November of actions affecting them, he wrote.

“It will be a fundamental and challenging change to our work, but one that is necessary to ensure the future operational reliability and efficiency of TAPS,” Barrett wrote. “I am acutely sensitive to the impacts this will have on our people, who in the past and moving forward are the foundation of our success.”

- ALAN BAILEY

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# EXHIBIT 5

Findings of the AOSC (January 9, 1990)

Findings of the Alaska  
Oil Spill Commission

Presented to the  
National Transportation Research Board  
Panel on  
Oil Transportation Issues

Walter B. Parker  
Chairman  
Alaska Oil Spill Commission  
707 A Street  
Suite 202  
Anchorage, Alaska 99504  
(907) 258-6545

January 9, 1990

The seven member Alaska Oil Spill Commission was created by the Alaska Legislature and appointed by the Governor of Alaska to accomplish three major tasks:

To establish a historical record of the events leading to the wreck of the Exxon Valdez.

To recommend ways to prevent future maritime accidents.

To recommend better ways to respond to future oil spills.

At our first meetings we quickly agreed to place our major focus on prevention of maritime accidents and future oil spills. In this we joined the federal administration, the Congress, the American Petroleum Institute and the environmental movement who profess a similar goal on prevention. Therefore, with so much agreement it would seem easy to have our recommendations on prevention adopted. However, the view of prevention from the oil industry may be very different from our view, the view from the federal administration may also be very different.

Our investigation of the events leading to the wreck of the Exxon Valdez revealed one salient theme - that the rules and regulations agreed on between the federal government, the oil industry and the State of Alaska in 1977 when the Valdez terminal was opened were consistently downgraded or ignored after 1979. The event that triggered this decline was the lawsuit launched by the oil industry against the state of Alaska, Chevron, et. al. vs Hammond which challenged the state's rights to be involved in prevention of tanker accidents through maintaining a presence alongside and in cooperation with the Coast Guard. A federal judge found against the state and ruled that the state's actions were pre-empted by the federal government. From then on both the Coast Guard and the oil industry began to weaken the original system more and more. Our historical record is contained in our report by investigator Peter Spivey titled Institutional Influences: The Coast Guard in Valdez. Tankers consistently deviated from the lanes established in 1977 for more and more specious reasons, the main reason being to save time. The same narrow economic views on tanker operations that put the Torrey Canyon on the rocks in 1968, operated again in 1989 to put the Exxon Valdez on Bligh Reef.

Our recommendations for prevention focus on the ships, the crews and the support systems designed to keep ships safe at sea.

We recommend double hulls become the domestic and international standard for oil tank vessels. We also recommend that our aging fleet be replaced on an accelerated basis. The great overbuilding of oil tankers that occurred from 1965 to 1975 is now coming home to roost since so few new tankers have been built in the past decade. We also recommend that strong consideration be given to more redundancy in power plants. Finally, a much closer look should be given to the new standards which lessen steel weight in the newest tankers being built, the Exxon Valdez being an example of a ship built to those standards.

In crews we have found that fatigue is a real factor that promises to become worse as crew size reductions are justified more and more on the basis of greater automation. Not only crew fatigue but system redundancy suffers from these reductions, since when the automated system fails there is often no immediate response available from a crew member to institute manual overrides. Some power plant failures of automated systems in the past two years need much more in depth investigation than has been given them thus far.

We also found that more on going training was necessary and that training varied widely from company to company. Institution of bridge response training on simulators should be pursued and requirements established to ensure that all do it. More stimulator training for engine rooms is also indicated in view of the lengthy start up times that have occurred after some power plant failures.

Our recommendations on support systems focus on much more stringent vessel traffic systems than the present systems. We believe vessel monitoring systems better describe what is necessary for maritime traffic. Ideally through either Loran C retransmits, satellite navigation or other systems, we will provide an electronic display on the bridge and at the vessel traffic centers which will be a display common to both. This will provide greatly expanded and more reliable coverage than radar at lesser cost, while keeping present shipboard and shore based radars in place. The aim again is systems redundancy.

System redundancy in hulls, power plants, navigation systems, manning standards and other areas is one key to prevention. The other is increased training in all assignments to ensure that crews are up to the sophisticated ships that are planned in the future.

Our recommendations on response focus on the use of the federal Incident Command System (ICS) which is used for response to natural disasters and hazard material incidents, for oil spill response. The ICS is a management system which uses the expertise of all federal and state agencies as necessary by using a system of preplanning that assigns roles to appropriate individuals within the agencies and provides them the training for carrying out those roles.

We view this as filling the many organizational gaps that developed in the response to the Exxon Valdez. The National Contingency Plan (NCP) did not operate effectively in this response, indeed in the early stages did not operate at all. Eventually it brought the Navy and other major help into spill clean up.

Generally, our ideal response organization starts with a strong local base in which regional response teams are created through using the ICS structure. These teams will use the resources of private, state and federal organizations in their response area. The spill will be under command of a government official, as designated by the ICS. The Oil Spill Commission strongly urges that there be no future privatization of major spills, a view joined by the Congress and the American Petroleum Institute thus far.

The next level of response is thorough interaction of our recommendations for interstate compacts with the federal regional response organizations. We view a West Coast compact working with the West Coast strike team as providing immediate response as necessary to calls for assistance from the local spill incident commander. Then, if necessary, the federal "czar" that is mandated in present legislation before the Congress and is strongly supported by the industry and the federal administration can be brought into the action to mobilize support nationwide.

Our perception is of an organization mobilizing from a local base outwards while their's is one that mobilizes from the top down. It is an important difference in perception.

We have noted in our record the general lack of federal resources devoted to oil spill response, especially in the areas of research and development. We feel this generally kept the NCP from being an effective instrument and it is imperative that a program to get caught up from a decade of federal passiveness on this issue be launched immediately.



Since we only recover 10% of the oil lost in most spills now, the need for rapid upgrading is clear. This however, in no way should detract from our continued emphasis on prevention, since even the best spill response systems will leave large quantities of oil in the water

# EXHIBIT 6

Testimony of AOSC Chair Parker and Findings  
(January 24, 1990)

TESTIMONY TO THE JOINT HEARING  
OF THE  
ALASKA HOUSE RESOURCES COMMITTEE  
ALASKA SENATE RESOURCES COMMITTEE  
ALASKA SENATE OIL AND GAS COMMITTEE

BY

WALTER B. PARKER

CHAIRMAN

ALASKA OIL SPILL COMMISSION

JANUARY 24, 1990

The Alaska Legislature charged the Alaska Oil Spill Commission with reporting on the historical record of events leading to the grounding of the Exxon Valdez on March 24, 1989. The Commission began its inquiry with the first planning for moving Prudhoe Bay oil to market in 1968 and concentrated on the period after 1977 when the Valdez terminal opened and began the first shipment of crude oil.

Despite early assurances by the federal government in the period 1968-72, that tanker operations from Valdez would be at the top of the state-of-the-art, including double bottoms, by 1975 it was clear that no special efforts would be made on the Valdez - West coast operations. Replies from the Coast Guard to state inquiries made it clear that the promised improvements would not be mandated.

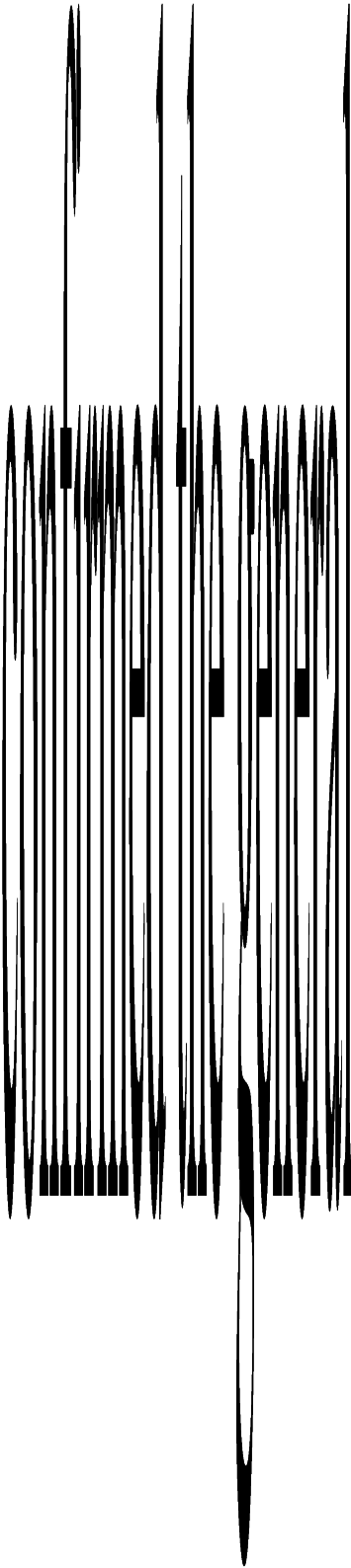
A task force was formed by Governor Hammond in 1975 to investigate means to insure that Valdez operations would be the best feasible. Two years of concerted effort resulted in agreements that tankers would proceed in designated lanes through Prince William Sound; that they would have tug escorts in the Sound; that a vessel traffic system would monitor tanker traffic in the Sound; that state pilots would be on board while in the Sound; that redundancies in radar and other navigation systems would be on board the tanker; and that ice problems would be handled by slowing to minimum safe maneuvering speed while

remaining in the tanker lanes.

Sea trials were held to check the system in April, 1977 using the Arco Fairbanks. The trials were successful. The key to the system was the tanker lanes which had been designed through the first simulation ever conducted of a North American port. This was done under the auspices of the State of Alaska and was funded by the State under the terms of the TAPS ACT.

Meanwhile, the Alaska Legislature had in 1976 passed SB 406, which established risk charges paid by operators of tank vessels and oil terminals into the Alaska Coastal Protection Fund. The mandates of AS30.20 and AS30.25 established various levels of constructions and operations standards for tankers and terminals, which set up reductions of charges tied to specific improvements. The aim to minimize risk and operations was carried out under this mandate until 1979. The Valdez terminal was operational with a permanent response crew in position and with response vessels and equipment on constant standby.

Tankers with double bottoms were constructed in this period to meet the state's requirements specifically the Bankers Trust Alaska and the Bankers Trust San Diego. The Department of Environmental Conservation set its budget year objectives for FY 1979 to have 10 tankers in the fleet serving Valdez with double bottoms.



On 1977 about 10 years as the United States entered the  
economic market place with respect to the state to construct 100,000  
and 100,000 on the basis that the Federal government approved  
most of the state the state was attempting to construct. The state  
Department of the Interior was responsible and in 1978, the state's  
authority was restored. The state approved parts of the National  
but the major elements of the situation were covered by agreement  
between the oil companies and the state. Our research indicates  
that the state took an increasingly more positive standpoint over  
time.

After 1978, no new double bottom were built by the industry.  
The only one built, the Basin Oilfield and the Basin Long Beach, were  
developed not only with double bottom but with one level more depth  
than facilities designed in the 1970s for the Pacific coast. These  
ships were finished in 1980 and other three years operations there  
and reports of early operations failures.

The Commission notes to have suggested earlier that they  
consider installing the Basin Oilfield with a double bottom while it  
was in the process. It might have resulted in this bottom. The  
cost of installing the Basin Oilfield was reported to be about 100  
million. Our committee report a double bottom would have cost  
more at 100 million more. The Basin Oilfield will be returned to  
service without a double bottom.

As our investigations detail, Coast Guard surveillance and enforcement of tanker operations declined rapidly after 1979. Officers who operated the system before 1979 were shocked at how routinely departures from the tanker lanes was accepted in the 1980s.

We also confirmed the general collapse of the oil spill response system after 1979, largely under Aleyska's initiatives, despite constant complaints from the ADEC office at Valdez to Juneau ADEC headquarters about the weakness of the system.

Partly ADEC's lack of action was due to budget constraints imposed by the Legislature, but the record also reveals a lack of strong resolve and focus on the Valdez terminal operations at the higher levels in the Department.

It is also important to note that there is absolutely no indication that either of the federal agencies responsible for the National Contingency Plan, the EPA and the Coast Guard, took any action in the 1980s to insure that the response system at Valdez was adequate.

It is equally important to note that no other elements of the state government made any strong efforts since 1979 to encourage ADEC to a more vigorous position on oil spill response at Valdez.

At least, we could not identify any such efforts.

We investigated Cook Inlet oil spill response and tanker operations, found them deficient and have made recommendations for improvements.

We also investigated Arctic response capability and have found it to be non-existent except in the immediate Prudhoe Bay area, where it is minimal.

The point was made immediately after the wreck of the Exxon Valdez that 8700 transits of Prince William Sound had been made without a disaster. This is not a good record and would result in an unacceptable level of accidents and fatalities if accepted for any other form of transportation.

Many still state that the Exxon Valdez was an aberration, an accident that was a fluke. Our investigations show that the system has been encouraging a catastrophic accident since 1979 by eliminating every safeguard that was put in the system then. The Exxon Valdez went on the rocks because it departed from the tanker lanes at sea speed rather than slowing down to proceed through the ice at reduced speed. Time pressures were put on all tanker masters, some companies putting on greater pressure than others. Both the Torrey Canyon and the Amoco Cadiz disasters were initiated by masters cutting corners to save time.



We are happy to note that tankers are now operating from Valdez in accordance with the original rules laid down and that response capability has been improved dramatically. However, the present response system will only recover 40% of spilled oil under ideal conditions, so improvements can still be made.

However, the ships operating in the system are an aging somewhat decrepit fleet of which 73% are single bottom hulls. Their power plants are aging along with their safety systems. they are below standard compared to both national and international standards in age. Some say the fleet cannot be replaced because Alaska oil production is declining. We say it must be replaced to ensure that another catastrophe does not destroy another vital segment of our Coast line.

**Findings of the Alaska  
Oil Spill Commission**

**Presented to the  
National Transportation Research Board  
Panel on  
Oil Transportation Issues**

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**January 9, 1990**

The seven member Alaska Oil Spill Commission was created by the Alaska Legislature and appointed by the Governor of Alaska to accomplish three major tasks:

To establish a historical record of the events leading to the wreck of the Exxon Valdez.

To recommend ways to prevent future maritime accidents.

To recommend better ways to respond to future oil spills.

At our first meetings we quickly agreed to place our major focus on prevention of maritime accidents and future oil spills. In this we joined the federal administration, the Congress, the American Petroleum Institute and the environmental movement who profess a similar goal on prevention. Therefore, with so much agreement it would seem easy to have our recommendations on prevention adopted. However, the view of prevention from the oil industry may be very different from our view, the view from the federal administration may also be very different.

Our investigation of the events leading to the wreck of the Exxon Valdez revealed one salient theme - that the rules and regulations agreed on between the federal government, the oil industry and the State of Alaska in 1977 when the Valdez terminal was opened were consistently downgraded or ignored after 1979. The event that triggered this decline was the lawsuit launched by the oil industry against the state of Alaska, Chevron, et. al. vs Hammond which challenged the state's rights to be involved in prevention of tanker accidents through maintaining a presence alongside and in cooperation with the Coast Guard. A federal judge found against the state and ruled that the state's actions were pre-empted by the federal government. From then on both the Coast Guard and the oil industry began to weaken the original system more and more. Our historical record is contained in our report by investigator Peter Spivey titled Institutional Influences: The Coast Guard in Valdez. Tankers consistently deviated from the lanes established in 1977 for more and more specious reasons, the main reason being to save time. The same narrow economic views on tanker operations that put the Torrey Canyon on the rocks in 1968, operated again in 1989 to put the Exxon Valdez on Bligh Reef.

Our recommendations for prevention focus on the ships, the crews and the support systems designed to keep ships safe at sea.

We recommend double hulls become the domestic and international standard for oil tank vessels. We also recommend that our aging fleet be replaced on an accelerated basis. The great overbuilding of oil tankers that occurred from 1965 to 1975 is now coming home to roost since so few new tankers have been built in the past decade. We also recommend that strong consideration be given to more redundancy in power plants. Finally, a much closer look should be given to the new standards which lessen steel weight in the newest tankers being built, the Exxon Valdez being an example of a ship built to those standards.

In crews we have found that fatigue is a real factor that promises to become worse as crew size reductions are justified more and more on the basis of greater automation. Not only crew fatigue but system redundancy suffers from these reductions, since when the automated system fails there is often no immediate response available from a crew member to institute manual overrides. Some power plant failures of automated systems in the past two years need much more in depth investigation than has been given them thus far.

We also found that more on going training was necessary and that training varied widely from company to company. Institution of bridge response training on simulators should be pursued and requirements established to ensure that all do it. More stimulator training for engine rooms is also indicated in view of the lengthy start up times that have occurred after some power plant failures.

Our recommendations on support systems focus on much more stringent vessel traffic systems than the present systems. We believe vessel monitoring systems better describe what is necessary for maritime traffic. Ideally through either Loran C retransmits, satellite navigation or other systems, we will provide an electronic display on the bridge and at the vessel traffic centers which will be a display common to both. This will provide greatly expanded and more reliable coverage than radar at lesser cost, while keeping present shipboard and shore based radars in place. The aim again is systems redundancy.

System redundancy in hulls, power plants, navigation systems, manning standards and other areas is one key to prevention. The other is increased training in all assignments to ensure that crews are up to the sophisticated ships that are planned in the future.

Our recommendations on response focus on the use of the federal Incident Command System (ICS) which is used for response to natural disasters and hazard material incidents, for oil spill response. The ICS is a management system which uses the expertise of all federal and state agencies as necessary by using a system of preplanning that assigns roles to appropriate individuals within the agencies and provides them the training for carrying out those roles.

We view this as filling the many organizational gaps that developed in the response to the Exxon Valdez. The National Contingency Plan (NCP) did not operate effectively in this response, indeed in the early stages did not operate at all. Eventually it brought the Navy and other major help into spill clean up.

Generally, our ideal response organization starts with a strong local base in which regional response teams are created through using the ICS structure. These teams will use the resources of private, state and federal organizations in their response area. The spill will be under command of a government official, as designated by the ICS. The Oil Spill Commission strongly urges that there be no future privatization of major spills, a view joined by the Congress and the American Petroleum Institute thus far.

The next level of response is thorough interaction of our recommendations for interstate compacts with the federal regional response organizations. We view a West Coast compact working with the West Coast strike team as providing immediate response as necessary to calls for assistance from the local spill incident commander. Then, if necessary, the federal "czar" that is mandated in present legislation before the Congress and is strongly supported by the industry and the federal administration can be brought into the action to mobilize support nationwide.

Our perception is of an organization mobilizing from a local base outwards while their's is one that mobilizes from the top down. It is an important difference in perception.

We have noted in our record the general lack of federal resources devoted to oil spill response, especially in the areas of research and development. We feel this generally kept the NCP from being an effective instrument and it is imperative that a program to get caught up from a decade of federal passiveness on this issue be launched immediately.

Since we only recover 10% of the oil lost in most spills now, the need for rapid upgrading is clear. This however, in no way should detract from our continued emphasis on prevention, since even the best spill response systems will leave large quantities of oil in the water

# EXHIBIT 7

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(1) "commission" means the Alaska State Emergency Response Commission;

(2) "council" means the Hazardous Substance Spill Technology Review Council;

(3) "hazardous substance" has the meaning given in AS 46.13.826.

\* Sec. 25. TRANSITIONAL PROVISION. The Alaska State Emergency Response Commission established under AS 46.13, enacted by sec. 24 of this Act, is a continuation of the Alaska State Emergency Response Commission established by Administrative Order No. 103. The terms of the public members of the commission who are serving terms on the effective date of this section continue until the date that was scheduled for their expiration before the effective date of this section.

\* Sec. 26. TESTING PROTOCOLS. The Hazardous Substance Spill Technology Review Council shall establish the initial testing protocols required under AS 46.13.120(2), enacted by sec. 24 of this Act, by January 1, 1991.

\* Sec. 27. APPROVAL OF SPILL TECHNOLOGY. The Department of Environmental Conservation shall, by March 1, 1991, report to the legislature its recommendations about the feasibility of establishing a process under which all types of oil and hazardous substance spill technology would have to be submitted to the department for approval before they could be used in the state.

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LAWS OF ALASKA

1990

Source

SCS CSHE 567(Fin)

Chapter No.

191

AN ACT

Relating to oil discharge prevention and contingency plan requirements, financial responsibility requirements related to oil, penalties, and inspection authority of the Department of Environmental Conservation; relating to the oil and hazardous substance release response fund and responses to oil and hazardous substance emergencies; authorizing the Department of Environmental Conservation and municipalities to enter into agreements pertaining to vessel traffic control and monitoring systems; and providing for an effective date.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

THE ACT FOLLOWS ON PAGE 7, LINE 18

UNDERLINED MATERIAL INDICATES TEXT THAT IS BEING ADDED TO THE LAW AND BRACKETED MATERIAL IN CAPITAL LETTERS INDICATES DELETIONS FROM THE LAW; COMPLETELY NEW TEXT OR MATERIAL REPEALED AND RE-ENACTED IS IDENTIFIED IN THE INTRODUCTORY LINE OF EACH BILL SECTION.

Approved by the Governor: June 26, 1990  
Actual Effective Date: June 27, 1990

Approved as Amended 6/26/90  
JUN 27 1990



AN ACT

Relating to oil discharge prevention and contingency plan requirements, financial responsibility requirements related to oil, penalties, and inspection authority of the Department of Environmental Conservation; relating to the oil and hazardous substance release response fund and responses to oil and hazardous substance emergencies; authorizing the Department of Environmental Conservation and municipalities to enter into agreements pertaining to vessel traffic control and monitoring systems; and providing for an effective date.

\* Section 1. AS 29.35.020 is amended by adding a new subsection to read:

(d) A municipality may enter into agreements with the United States Coast Guard, the United States Environmental Protection Agency, and other persons relating to development and enforcement of vessel traffic control and monitoring systems for oil barges and tank vessels carrying oil operating in or near the waters of the state.

\* Sec. 2. AS 46.03.759(c) is amended to read:

(c) Subject to the \$500,000,000 maximum set under (a) of this section the court shall assess four times the penalty set out in (a) of this section if the court finds

(1) the discharge was caused by the gross negligence or

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intentional act of the defendant;

(2) the defendant did not take reasonable measures to contain and clean up the discharged oil; or

(3) the defendant did not act or respond in accordance with an approved oil discharge prevention and contingency plan.

\* Sec. 3. AS 46.03.823(a) is amended to read:

(a) A person who is a response action contractor with respect to a release or threatened release of a hazardous substance whose acts or omissions are not contrary to a response plan or order by a state or federal agency having jurisdiction over the release or threatened release is not civilly liable for injuries, costs, damages, expenses, or other liability that results from the release or threatened release unless the release or threatened release is caused by an act or omission of the response action contractor that is negligent or grossly negligent or constitutes intentional misconduct. To show negligence by a response action contractor, a claimant must show that the acts or omissions of the contractor under the response action contract were not in accordance with generally accepted professional standards and practices at the time the response action services were performed.

\* Sec. 4. AS 46.03.823(b) is amended to read:

(b) The liability limitation under (a) of this section

(1) does not apply to a response action contractor who would otherwise be liable for the release or threatened release under state or federal law even if that person had not carried out a response action with respect to the release or threatened release; and

(2) does apply only to releases for which notification to the department was provided and received in the manner prescribed under state law [STRICTLY LIABLE UNDER THIS SECTION].

\* Sec. 5. AS 46.03.823(e) is amended to read:

(e) This section does not affect the liability of a response action contractor that may arise from the response action contractor's failure to comply with the terms or conditions of a

(1) response action contract or a remedial action plan if one has been approved by the department; or

(2) contingency plan approved by the department where the response action contractor is the plan holder.

\* Sec. 6. AS 46.03.823(g)(2) is amended to read:

(2) "response action contract" means a written contract or agreement to provide response action with respect to a release or threatened release of a hazardous substance, entered into by a person with

(A) the department; [OR]

(B) another person who has entered into an agreement with the department that provides for response action subject to the department's oversight and control;

(C) a federal agency with jurisdiction over the release or threatened release; or

(D) another person potentially liable for the release or threatened release under state or federal law.

\* Sec. 7. AS 46.03.823(g)(3) is amended to read:

(3) "response action contractor" means

(A) a person who enters into a response action contract with respect to a release or threatened release of a hazardous substance and who is carrying out the contract, including a cooperative organization formed to maintain and supply response equipment and materials that enters into a response action contract relating to a release or threatened release; and

(B) a person who is retained or hired by and is under

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the control of a person described in (A) of this paragraph, to provide services related to the response action contract.

\* Sec. 8. AS 46.04.020(a) is amended to read:

(a) The department shall enter into negotiations for memoranda of understanding or cooperative agreements with the United States Coast Guard, the United States Environmental Protection Agency, and other persons in order to:

(1) facilitate coordinated and effective oil discharge prevention and response in the state, including agreements relating to development and enforcement of vessel traffic control and monitoring systems for tank vessels and oil barges operating in or near the waters of the state;

(2) provide for cooperative review of oil discharge prevention and contingency plans submitted to the department under AS 46.04.030;

(3) provide for cooperative inspections of oil terminal facilities by the department and the United States Coast Guard or United States Environmental Protection Agency; and

(4) provide for cooperative oil discharge notification procedures.

\* Sec. 9. AS 46.04.030 is amended to read:

Sec. 46.04.030. OIL DISCHARGE PREVENTION AND CONTINGENCY PLANS

(a) A person may not cause or permit the operation of an oil terminal facility in the state unless an oil discharge prevention and contingency plan for the facility has been approved by the department and the person is in compliance with the plan. THE DEPARTMENT IS THE ONLY STATE AGENCY WHICH HAS THE POWER TO APPROVE AN OIL DISCHARGE CONTINGENCY PLAN FOR THE PURPOSES OF THIS SECTION.

(b) A [AFTER JANUARY 1, 1987, A] person may not cause or permit

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the operation of a pipeline or an (OFFSHORE) exploration or production facility in the state unless an oil discharge prevention and contingency plan for the pipeline or facility has been approved by the department and the person is in compliance with the plan.

(c) Except as provided in (a) of this section, a [A] person may not operate a tank vessel or an oil barge within the waters of the state, or cause or permit the transfer of oil to or from a tank vessel or [A, OR, AFTER JANUARY 1, 1987, TO OR FROM] an oil barge, unless an oil discharge prevention and contingency plan for the tank vessel or oil barge has been approved by the department and the person is in compliance with the plan (EXCEPT FOR PROHIBITIONS UNDER AS 46.03.190(b), IT IS NOT A DEFENSE TO AN ACTION BROUGHT FOR VIOLATION OF THIS SUBSECTION THAT THE PERSON CHARGED BELIEVED THAT A CURRENT OIL DISCHARGE CONTINGENCY PLAN FOR THE TANK VESSEL OR OIL BARGE HAD BEEN APPROVED BY THE DEPARTMENT).

(c) Upon approval of a contingency plan, the department shall issue to the plan holder a certificate stating that the contingency plan has been approved by the department. The certificate must include the name of the facility, pipeline, tank vessel, or oil barge for which it is issued, the effective date of the contingency plan, and the date by which the contingency plan must be submitted for renewal. [AN OIL DISCHARGE] contingency plan must be submitted for renewal [RENEWED AT LEAST] every three years.

(e) The department may attach reasonable terms and conditions to its approval or modification of a [AN OIL DISCHARGE] contingency plan that the department [WHICH IT] determines are necessary to ensure [INSURE] that the applicant for a [AN OIL DISCHARGE] contingency plan has access to sufficient resources to protect environmentally sensitive areas and to contain, clean up, and mitigate potential oil

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discharges from the facility or vessel as provided in (k) of this section, and to ensure that the applicant complies with the contingency plan (WITHIN THE SHORTEST FEASIBLE TIME). The [OIL DISCHARGE] contingency plan must provide for the use [OF THE BEST AVAILABLE TECHNOLOGY] by the applicant of the best technology that was available at the time the contingency plan was submitted or renewed. The department may require an applicant or holder of an approved contingency plan to take steps necessary to demonstrate its ability to carry out the contingency plan, including

- (1) periodic training;
- (2) response team exercises; and
- (3) verifying access to inventories of [AVAILABLE] equipment, supplies, and personnel identified as available in the approved contingency plan.

(f) Upon request of a plan holder or on the department's own initiative, the [THE] department, after notice and opportunity for hearing, may modify its approval of a [AN OIL DISCHARGE] contingency plan if the department [IT] determines that a change has occurred in the operation of a facility [, MARINA] or vessel necessitating an amended or supplemented plan, or the operator's discharge experience demonstrates a necessity for modification. The department, after notice and opportunity for hearing, may revoke its approval of a [AN OIL DISCHARGE] contingency plan if the department [IT] determines that

- (1) approval was obtained by fraud or misrepresentation;
- (2) the operator does not have access to the quality or quantity of resources identified in the plan; [OR]
- (3) a term or condition of approval or modification has been violated; or
- (4) the person is not in compliance with the contingency

plan and the deficiency materially affects the plan holder's response capability.

(g) Failure of a holder of an approved or modified [OIL DISCHARGE] contingency plan to comply with the plan, or to have access to the quality or quantity of resources identified in the plan or [AND, IN THE EVENT OF A SPILL,] to respond with those resources within the shortest possible [FEASIBLE] time in the event of a spill is a violation of this chapter for purposes of AS 46.03.760(a), 46.03.765, 46.03.790, and any other applicable law. If the holder of an approved or modified [OIL DISCHARGE] contingency plan fails to respond to and conduct cleanup operations of an unpermitted discharge of crude oil with the quality and quantity of resources identified in the plan and in a manner required under the plan, the holder is strictly liable, jointly and severally, for the civil penalty assessed under AS 46.03.758, 46.03.759, or 46.03.760 against any other person for that discharge.

\* Sec. 10. AS 46.04.030 is amended by adding new subsections to read:

(h) The department is the only state agency that has the power to approve, modify, or revoke a contingency plan for the purposes of this section. The department shall exercise its power under this section in a timely manner. Except for prosecutions under AS 46.03.790(b) and except as provided in (i) of this section, it is not a defense to an action brought for a violation of (a) - (c) of this section that the person charged believed that a current contingency plan had been approved by the department.

(i) It is a defense to an action brought for a violation of (a) - (c) of this section that the person charged relied on a certificate of approval issued by the department under (d) of this section unless the person knew or had reason to know at the time of the

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alleged violation that approval of the plan had been revoked or that the holder of the plan was not capable of carrying out the plan.

(j) Before the department approves or modifies a contingency plan under this section, the department shall provide a copy of the contingency plan to the Department of Fish and Game and to the Department of Natural Resources for their review. The department shall by regulation establish the procedures and time limits applicable to agency review of contingency plans.

(k) Except as provided in (m) and (o) of this section, the holder of an approved contingency plan required under this section shall maintain, or have available under contract, in its region of operation or in another region of operation approved by the department, singly or in conjunction with other operators, sufficient oil discharge containment, storage, transfer, and cleanup equipment, personnel, and resources to meet the following response planning standards:

(1) for a discharge from an oil terminal facility, the plan holder shall plan to be able to contain or control, and clean up a discharge equal to the capacity of the largest oil storage tank at the facility within 72 hours, except that if the department determines that the facility is located in an area of high risk because of natural or man-made conditions outside of the facility, it may increase the volume requirement under this paragraph so that the contingency plan must be designed for a response that is greater in amount than the capacity of the largest oil storage tank at the facility;

(2) for a discharge from an exploration or production facility or a pipeline, the plan holder shall plan to be able to contain or control, and clean up the realistic maximum oil discharge within 72 hours;

(3) for a discharge of crude oil from a tank vessel or oil barge, the plan holder shall plan to be able to contain or control, and clean up a realistic maximum oil discharge as provided in (A), (B), and (C) of this paragraph:

(A) for tank vessels and oil barges having a cargo volume of less than 500,000 barrels, the plan holder shall maintain at a minimum in the region of operation, equipment, personnel, and other resources sufficient to contain or control, and clean up a 50,000 barrel discharge within 72 hours;

(B) for tank vessels and oil barges having a cargo volume of 500,000 barrels or more, the plan holder shall maintain at a minimum in its region of operation, equipment, personnel, and other resources sufficient to contain or control, and clean up a 300,000 barrel discharge within 72 hours;

(C) in addition to the minimum equipment, personnel, and other resources required to be maintained within the region of operation by (A) or (B) of this paragraph, a plan holder shall maintain, either within or outside of the plan holder's region of operation, additional equipment, personnel, and other resources sufficient to contain or control, and clean up a realistic maximum discharge within the shortest possible time; the plan holder must demonstrate that the equipment, personnel, and other resources maintained outside the plan holder's region of operation are accessible to the plan holder and will be deployed and operating at the discharge site within 72 hours;

(4) for a discharge from a tank vessel or oil barge carrying noncrude oil in bulk as cargo, the plan holder shall plan to be able to contain or control 75 percent of the maximum capacity of the vessel or barge or the realistic maximum oil discharge, whichever is

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greater, within 48 hours and clean up the discharge within the shortest possible time consistent with minimizing damage to the environment;

(5) for a discharge subject to the provisions of (1) - (3) of this subsection that enters a receiving environment other than open water, the time requirement for clean up of the portion of the discharge that enters the receiving environment may, in the department's discretion, be within the shortest possible time consistent with minimizing damage to the environment.

(1) The provisions of (k) of this section do not constitute cleanup standards that must be met by the holder of a contingency plan. Notwithstanding (k) of this section, failure to remove a discharge within the time periods set out in (k) of this section does not constitute failure to comply with a contingency plan for purposes of (g) of this section or for the purpose of imposing administrative, civil, or criminal penalties under any other law.

(m) When considering whether to approve or modify a contingency plan, the department may consider evidence that oil discharge prevention measures such as double hulls or double bottoms on vessels or barges, secondary containment systems, hydrostatic testing, enhanced vessel traffic systems, or enhanced crew or staffing levels have been implemented, and, in its discretion, may make exceptions to the requirements of (k) of this section to reflect the reduced risk of oil discharges from the facility, pipeline, vessel, or barge for which the plan is submitted or being modified.

(n) A tank vessel or oil barge that is conducting, or is available only for conducting, oil discharge response operations is exempt from the requirements of (c) of this section if the tank vessel or oil barge has received prior approval of the department. The department

may approve exemptions under this subsection upon application and presentation of information required by the department.

(c) A holder of an approved contingency plan does not violate the terms of the contingency plan by furnishing to another plan holder, with the approval of the department, equipment, materials, or personnel to assist the other plan holder in a response to an oil discharge. The plan holder shall replace or return the transferred equipment, materials, and personnel as soon as feasible. The department shall by regulation determine the maximum amount of equipment, materials, or personnel and the maximum amount of time for which it will approve a transfer.

(p) The department shall approve or disapprove a proposed contingency plan within 65 days after it receives a complete application for approval under this section.

(q) In this section,

(1) "contingency plan" means an oil discharge prevention and contingency plan required under this section;

(2) "in compliance with the plan" means, with respect to a contingency plan, to

(A) establish and carry out procedures identified in the plan as being the responsibility of the holder of the plan;

(B) have access to and have on hand the quantity and quality of equipment, personnel, and other resources identified as being accessible or on hand in the plan;

(C) fulfill the assurances espoused in the plan in the manner described in the plan;

(D) comply with terms and conditions attached to the plan by the department under the authority of (e) of this section; and

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(E) successfully demonstrate the ability to carry out the plan when required by the department under (e) of this section;

(3) "realistic maximum oil discharge" means the maximum and most damaging oil discharge that the department estimates could occur during the lifetime of the tank vessel, oil barge, facility, or pipeline based on the size, location, and capacity of the tank vessel, oil barge, facility, or pipeline; on the department's knowledge and experience with the tank vessel, oil barge, facility, or pipeline or with similar tank vessels, oil barges, facilities, or pipelines; and on the department's analysis of possible mishaps to the tank vessel or oil barge or at the facility or pipeline or to similar tank vessels or oil barges or at similar facilities or pipelines;

(4) "region of operation," with respect to the holder of a contingency plan, means the area where the operations of the holder that require a contingency plan are located, the boundaries of which correspond to the regional boundaries established by the commissioner for regional master planning purposes under AS 46.04.210.

\* Sec. 11. AS 46.04.040(a) is amended to read:

(a) A person may not cause or permit the operation of an oil terminal facility in the state unless the person has furnished to the department, and the department has approved, proof of financial ability to respond in damages. Proof of financial responsibility required for a crude oil terminal is \$50,000,000 per incident. Proof of financial responsibility required for a noncrude oil terminal is \$25, per incident, for each barrel of total noncrude oil storage capacity at the terminal or (WHICH HAS BEEN ACCEPTED BY THE DEPARTMENT. ABILITY TO RESPOND IN DAMAGES NEED NOT EXCEED \$50,000,000 BUT MUST BE IN AN AMOUNT (1) NOT LESS THAN \$10, PER INCIDENT, FOR EACH BARREL OF STORAGE

CAPACITY AT THE OIL TERMINAL FACILITY: OK (2) \$1,000,000, whichever is greater, subject to a maximum of \$50,000,000. For purposes of this subsection, an oil terminal facility that stores both crude oil and noncrude oil is subject to the financial responsibility requirements applicable to the type of facility that corresponds to the type of oil storage that predominates at the facility. However, if the facility stores more noncrude oil than crude oil, the \$25 per incident, per barrel requirement of this subsection applies to each barrel of oil storage capacity at the facility.

\* Sec. 12. AS 46.04.040(b) is amended to read:

(b) A [AFTER JULY 1, 1981, A] person may not cause or permit the operation of a pipeline or an [OFFSHORE] exploration or production facility in the state unless the person has furnished to the department, and the department has approved, proof of financial ability to respond in damages [HAS BEEN ACCEPTED BY THE DEPARTMENT]. Proof of financial responsibility required for a pipeline or an offshore exploration or production facility is \$50,000,000 [MAY NOT BE LESS THAN \$35,000,000] per incident. Proof of financial responsibility required for an onshore production facility is \$20,000,000 per incident. Proof of financial responsibility required for an onshore exploration facility is \$5,000,000 per incident.

\* Sec. 13. AS 46.04.040(c) is amended to read:

(c) Except as provided in (m) of this section, a [A] person may not operate a tank vessel or an oil barge within the waters of the state, or cause or permit the transfer of oil to or from a tank vessel [.] or [, AFTER JANUARY 1, 1981, TO OR FROM] an oil barge, unless the person operating the tank vessel or oil barge has furnished to the department, and the department has approved, proof of financial ability to respond in damages. Proof of financial responsibility required

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under this subsection is

(1) \$300, per incident, for each barrel of storage capacity or \$100,000,000, whichever is greater, for a tank vessel or barge carrying crude oil;

(2) \$100, per incident, for each barrel of storage capacity or \$1,000,000, whichever is greater, subject to a maximum of \$35,000,000, for a tank vessel or barge carrying noncrude oil [RESPONSIBILITY FOR THE TANK VESSEL OR BARGE HAS BEEN ACCEPTED BY THE DEPARTMENT. FINANCIAL RESPONSIBILITY UNDER THIS SUBSECTION SHALL BE IN THE FOLLOWING AMOUNTS:

(1) FOR A TANK VESSEL OR OIL BARGE INVOLVED IN THE TRANSPORTATION OF TRANS-ALASKA PIPELINE OIL, THE AMOUNT REQUIRED BY THE FEDERAL MARITIME COMMISSION UNDER 43 U.S.C. 1653(c)(3) (SEC. 204 (c)(3), TRANS-ALASKA PIPELINE AUTHORIZATION ACT);

(2) FOR ANY OTHER OIL BARGE, THE AMOUNT REQUIRED BY SEC. 311(p)(1) OF THE CLEAN WATER ACT, OR \$1,000,000, WHICHEVER IS GREATER;

(3) FOR ANY OTHER TANK VESSELS, THE AMOUNT REQUIRED BY SEC. 311(p)(1) OF THE CLEAN WATER ACT, OR \$20,000,000, WHICHEVER IS GREATER].

\* Sec. 14. AS 46.04.040(d) is amended to read:

(d) Except for prosecutions under AS 46.03.790(b) and except as provided in (k) of this section, it is not a defense to an action brought for violation of (a) - (c) [ ] of this section that the person charged believed in good faith that proof of financial ability to respond in damages had been furnished to, and approved by, the department [THE VESSEL OPERATOR POSSESSED PROOF OF FINANCIAL RESPONSIBILITY ACCEPTED BY THE DEPARTMENT].

\* Sec. 15. AS 46.04.040(e) is amended to read:

(e) Financial responsibility may be demonstrated by (1) self-

insurance, (2) insurance, (3) surety, (4) [OR] guarantee, (5) letter of credit approved by the department, or (6) other proof of financial responsibility approved by the department, including proof of financial responsibility provided by a group of insureds who have agreed to cover pollution risks of members of the group under terms the department may prescribe. An action brought under AS 46.03.758, 46.03.759, 46.03.760(a) or (e), 46.03.822, or AS 46.04.030(g) [OR TO COLLECT PENALTIES IMPOSED UNDER AS 46.03.759] may be brought in a state court directly against the insurer, the group, or another person providing evidence of financial responsibility. The applicant, and an insurer, surety, [OR] guarantor, person furnishing an approved letter of credit, or other group or person providing proof of financial responsibility approved by the department shall appoint an agent for service of process in the state. For purposes of this subsection, an [AN] insurer, other than a group of insureds whose agreement has been approved by the department, must either be authorized by the Department of Commerce and Economic Development to sell insurance in the state or be an unauthorized insurer listed by the Department of Commerce and Economic Development as not disapproved for use in the state.

\* Sec. 16. AS 46.04.040(f) is amended to read:

(f) Acceptance of proof of financial responsibility expires (1) one year from its issuance for self-insurance; (2) on the effective date of a change in the surety bond, guarantee, [OR] insurance agreement, letter of credit, or other proof of financial responsibility; or (3) on the expiration or cancellation of the surety bond, guarantee, [OR] insurance agreement, letter of credit, or other proof of financial responsibility.

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\* Sec. 17. AS 46.04.040(g) is amended to read:

(g) The person whose proof of financial responsibility is accepted by the department under this section shall notify the department at least 30 days before the effective date of a change, expiration or cancellation in the surety bond, guarantee, [OR] insurance agreement, letter of credit, or other proof of financial responsibility. Application for renewal of acceptance of proof of financial responsibility under this section must be filed at least 30 days before the date of expiration.

\* Sec. 18. AS 46.04.040 is amended by adding new subsections to read:

(j) Upon acceptance and approval of proof of financial responsibility under this section, the department shall issue to the applicant a certificate stating that the state's financial responsibility requirements have been satisfied. The certificate must include the name of the facility, pipeline, tank vessel, or oil barge for which it is issued and the expiration date of the certificate.

(k) It is a defense to an action brought for violation of (a) - (c) of this section that the person charged relied on a certificate of approval issued under (j) of this section unless the person knew or had reason to know at the time of the alleged violation that the approval had been revoked or was expired.

(l) Notwithstanding the requirements of (e) of this section, the applicant may provide evidence of financial responsibility provided by an insurer or other person who does not agree to be subject to direct action in state courts or to appoint an agent for service of process if

(1) the department is satisfied that the insurance or other form of financial responsibility covers judgments under the statutes listed in (e) of this section;

(2) the applicant provides proof of \$50,000,000, or the amount required by (a) - (c) of this section, whichever is less, in insurance or other form of financial responsibility that meets the requirements of (e) of this section; and

(3) the applicant provides a sworn statement or affidavit that insurance or other form of financial responsibility that meets the requirements of (e) of this section is not available in greater amounts.

(m) A tank vessel or oil barge that is conducting, or is available only for conducting, oil discharge response operations is exempt from the requirements of (c) of this section if the tank vessel or oil barge has received prior approval of the department. The department may approve an exemption under this subsection upon application and presentation of information required by the department.

\* Sec. 19. AS 46.04 is amended by adding a new section to read:

Sec. 46.04.045. ADJUSTMENT OF DOLLAR AMOUNTS. (a) The dollar amounts in AS 46.04.040 change, as provided in this section, according to and to the extent of changes in the Consumer Price Index for all urban consumers for the Anchorage metropolitan area compiled by the Bureau of Labor Statistics, United States Department of Labor (the index). The index for January of the year in which this section becomes effective is the reference base index.

(b) The dollar amounts change on October 1 of each third year according to the percentage change between the index for January of that year and the most recent index used to determine whether to change the dollar amounts. After calculation of the new amounts, the resulting amounts shall be rounded to the nearest cent.

(c) If the index is revised, the percentage of change is calculated on the basis of the revised index. If a revision of the index

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changes the reference base index, a revised reference base index is determined by multiplying the reference base index applicable by the rebasing factor furnished by the United States Bureau of Labor Statistics. If the index is superseded, the index referred to in this section is the one represented by the Bureau of Labor Statistics as reflecting most accurately changes in the purchasing power of the dollar for Alaskan consumers.

(d) The department shall adopt a regulation announcing

(1) on or before June 30 of each third year, the changes in dollar amounts required by (b) of this section; and

(2) promptly after the changes occur, changes in the index required by (c) of this section, including, if applicable, the numerical equivalent of the reference base index under a revised reference base index and the designation or title of any index superseding the index.

(e) The department shall also provide notification of a change in dollar amounts required under (b) of this section to the clerks of court in each judicial district of the state.

\* Sec. 20. AS 46.04.050 is amended to read:

Sec. 46.04.050. EXEMPTIONS. The provisions of [BECAUSE OF THE RESTRICTED NATURE OF THE OPERATIONS AND THE MINIMAL DANGER TO THE ENVIRONMENT POSED BY THE ACTIVITIES,] AS 46.04.030, 46.04.040, and 46.04.060 do not apply to an oil terminal facility that has an effective storage capacity of less than 5,000 [10,000] barrels of crude oil or less than 10,000 barrels of noncrude oil.

\* Sec. 21. AS 46.04.060 is amended to read:

Sec. 46.04.060. INSPECTIONS. In addition to other rights of access or inspection conferred upon the department by law or otherwise, the department may at reasonable times and in a safe manner

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enter and inspect oil [OIL] terminal facilities, pipelines, [OFFSHORE] exploration and production facilities, tank vessels, and oil barges in order [ARE SUBJECT TO INSPECTION BY THE DEPARTMENT] to

(1) ensure compliance with the provisions of this chapter;

or

(2) participate in an examination of the structural integrity and the operating and mechanical systems of those vessels, barges, pipelines, and facilities by federal and state agencies with jurisdiction.

\* Sec. 22. AS 46.04.060 is amended by adding a new subsection to read:

(b) When the department determines that no federal or state agencies with jurisdiction are performing timely and adequate inspections of an oil terminal facility, pipeline, exploration or production facility, tank vessel, or oil barge, it may perform its own inspection of the structural integrity and operating and mechanical systems of a facility, pipeline, tank vessel, or oil barge by using personnel with qualifications in the areas being inspected.

\* Sec. 23. AS 46.04.200 is amended to read:

Sec. 46.04.200. STATE MASTER PLAN. (a) The department shall prepare and annually review and revise a statewide master oil and hazardous substance discharge [AND] prevention and contingency plan.

(b) The state master plan prepared under this section must

(1) take into consideration the elements of an oil discharge prevention and contingency plan approved or submitted for approval under AS 46.04.030;

(2) clarify and specify the respective responsibilities of each of the following in the assessment, containment, and cleanup of a catastrophic oil discharge or of a significant discharge of a hazardous substance into the environment of the state:

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION

- 1 (A) agencies of the state;
- 2 (B) municipalities of the state;
- 3 (C) appropriate federal agencies;
- 4 (D) operators of facilities;
- 5 (E) private parties whose land and other property may
- 6 be affected by the oil or hazardous substance discharge; and
- 7 (F) other parties identified by the commissioner as
- 8 having an interest in or the resources to assist in the contain-
- 9 ment and cleanup of an oil or hazardous substance discharge;
- 10 (3) specify the respective responsibilities of parties
- 11 identified in (2) of this subsection in an emergency response; and
- 12 (4) identify actions necessary to reduce the likelihood of
- 13 catastrophic oil discharges and significant discharges of hazardous
- 14 substances.
- 15 (c) In preparing and annually reviewing the state master plan,
- 16 the commissioner shall
- 17 (1) consult with municipal and community officials, and
- 18 with representatives of affected regional organizations;
- 19 (2) submit the draft plan to the public for review and
- 20 comment;
- 21 (3) submit to the legislature for review, not later than
- 22 the 10th day following the convening of each regular session, the plan
- 23 and any annual revision of the plan; and
- 24 (4) require or schedule unannounced oil spill drills to
- 25 test the sufficiency of an oil discharge prevention and contingency
- 26 plan approved under AS 46.04.030 or of the cleanup plans of a party
- 27 identified under (b)(2) of this section.

\* Sec. 24. AS 46.04.210(a) is amended to read:

- (a) For any region of the state, the boundaries of which are

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determined by the commissioner by regulation, in which the department is required to review and approve an oil discharge prevention and contingency plan submitted by a person under AS 46.04.030, the department shall prepare and annually review and revise a regional master oil and hazardous substance discharge [AND] prevention and contingency plan.

\* Sec. 25. AS 46.04.900(8) is amended to read:

(8) "[OFFSHORE] exploration [OR PRODUCTION] facility" means a platform, vessel, or other facility used to explore for [OR PRODUCE] hydrocarbons in or on the waters of the state or in or on land in the state; the term does not include platforms or vessels used for stratigraphic drilling or other operations that [WHICH] are not authorized or intended to drill to a producing formation;

\* Sec. 26. AS 46.04.900(15) is amended to read:

(15) "tank vessel" means a self-propelled waterborne vessel that is constructed or converted to carry liquid bulk cargo in tanks and includes tankers, tankships, and combination carriers when carrying oil; the term does not include vessels carrying oil in drums, barrels, or other packages, or vessels carrying oil as fuel or stores for that vessel;

\* Sec. 27. AS 46.04.900 is amended by adding new paragraphs to read:

(18) "pipeline" means the facilities, including piping, compressors, pump stations, and storage tanks, used to transport crude oil and associated hydrocarbons between production facilities or from one or more production facilities to marine vessels;

(19) "production facility" means a drilling rig, drill site, flow station, gathering center, pump station, storage tank, well, and related appurtenances on other facilities to produce, gather, clean, dehydrate, condition, or store crude oil and associated hydrocarbons

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in or on the water of the state or on land in the state, and gathering and flow lines used to transport crude oil and associated hydrocarbons to the inlet of a pipeline system for delivery to a marine facility, refinery, or other production facility.

\* Sec. 25. AS 46.08.040 is amended to read:

Sec. 46.08.040. PURPOSES OF THE FUND. The commissioner may use money from the fund to

(1) investigate and evaluate the release or threatened release of oil or a hazardous substance, and contain, clean up, and take other necessary action, such as monitoring and assessing, to address a release or threatened release of oil or a hazardous substance that poses an imminent and substantial threat to the public health or welfare, or to the environment;

(2) pay all costs incurred

(A) to establish and maintain the oil and hazardous substance response office and for the expenses of the oil and hazardous substance response corps and the oil and hazardous substance response depots established by that office;

(B) to review oil discharge prevention and contingency plans submitted under AS 46.04.030;

(C) to conduct training, response exercises, inspections, and tests, in order to verify equipment inventories and ability to prevent and respond to oil and hazardous substance release emergencies, and to undertake other activities intended to verify or establish the preparedness of the state, a municipality, or a party required by AS 46.04.030 to have an approved contingency plan to act in accordance with that plan; and

(D) to verify or establish proof of financial responsibility required by AS 46.04.040;

(3) provide matching funds for participation in federal oil discharge cleanup activities and under 42 U.S.C. 9601 - 9657 (Comprehensive Environmental Response, Compensation, and Liability Act of 1980); [AND]

(4) recover the costs to the state or to a municipality of a containment and cleanup resulting from the release or the threatened release of oil or a hazardous substance; [.]

(5) prepare, review, and revise

(A) the state's master oil and hazardous substance discharge [AND] prevention and contingency plan required by AS 46.04.200; and

(B) a regional master oil and hazardous substance discharge [AND] prevention and contingency plan required by AS 46.04.210; and

(6) restore the environment by addressing the effects of an oil or hazardous substance release.

\* Sec. 29. AS 46.08.060(a) is amended to read:

(a) The commissioner shall submit a report to the legislature not later than the 10th day following the convening of each regular session of the legislature. The report may include information considered significant by the commissioner but must include:

(1) the amount of money expended under AS 46.08.040 during the preceding fiscal year;

(2) the amount and source of money received and money recovered during the preceding fiscal year as specified in AS 46.08.020;

(3) a summary of municipal participation in responses funded by the fund;

(4) a detailed summary of department activities in

responses funded by the fund during the preceding fiscal year, including response descriptions and statements outlining the nature of the threat; in this paragraph, "detailed" includes information describing each personal services position and total compensation for that position, each contract in excess of \$20,000, and each purchase in excess of \$10,000; and

(5) the projected cost for the next fiscal year of monitoring, operating, and maintaining sites where response has been completed or is expected to be continued during the fiscal year.

\* Sec. 30. SURVEY OF SMALL NONCRUDE OIL TERMINAL FACILITIES. (a) By January 31, 1992, the Department of Environmental Conservation shall survey, inspect, and prepare an inventory of noncrude oil terminal facilities in the state with an effective storage capacity of 5,000 to 10,000 barrels in order to determine for each facility

- (1) its actual storage capacity;
- (2) the type of noncrude oil products stored;
- (3) its age, design, construction, and general condition;
- (4) the design and construction standards applicable or relevant;
- (5) the presence or absence of containment structures and equipment;
- (6) its ability to respond to a release or threatened release;
- (7) the environmental sensitivity of the surrounding area and the potential risk to the environment if a release occurs;
- (8) the presence or absence of surface and subsurface pipelines and storage tanks; and
- (9) other appropriate information.

(b) By January 31, 1992, the Department of Environmental Conservation shall report to the legislature the results of the survey required under SCS CSHE 567(Fin)

(a) of this section and its written recommendations concerning discharge prevention and contingency requirements or design review requirements that should be enacted for noncrude oil terminal facilities with storage capacities of less than 10,000 barrels.

(c) Upon completion of the survey required under (a) of this section, the Department of Environmental Conservation may

- (1) notify each facility of the results of the facility's inspection; and
- (2) provide each facility with recommendations and technical assistance concerning identified deficiencies.

(d) The Department of Environmental Conservation may conduct the inspections required under this section notwithstanding the provisions of AS 46.04.050. The department shall conduct the inspections at reasonable times.

\* Sec. 31. STUDY RELATING TO NONCRUDE OIL TANKERS AND BARGES. By July 1, 1991, the Department of Environmental Conservation shall conduct a study and report to the legislature its recommendations concerning the following issues related to oil discharge prevention and contingency planning for tank vessels and oil barges carrying noncrude oil in bulk as cargo:

- (1) appropriate locations for regional response depots, based on an assessment of historical evidence of where noncrude oil discharges are most likely to occur and the needs of remote areas of the state such as western and northern Alaska and the Aleutians;
- (2) appropriate discharge response times;
- (3) requirements for personnel and equipment that should be imposed on contingency plan holders;
- (4) appropriate roles for industry and state and local governments in the purchase, ownership, and positioning of discharge response

Environmental Conservation Agency

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1 efforts.

2 \* Sec. 32. TRANSITIONAL PROVISIONS. (a) AS 46.04.030(k) - (m), en-  
3 acted by sec. 10 of this Act, do not apply to oil discharge prevention and  
4 contingency plans until June 1, 1991. On and after June 1, 1991, a contin-  
5 gency plan must comply with AS 46.04.030(k) - (m), enacted by sec. 10 of  
6 this Act, regardless of whether the contingency plan is due for renewal  
7 under AS 46.04.030(d), as amended by sec. 9 of this Act.

8 (b) The amendments to AS 46.04.040, made by secs. 11 - 18 of this  
9 Act, do not apply to persons required to show proof of financial respon-  
10 sibility until June 1, 1991. On and after June 1, 1991, proof of financial  
11 responsibility must comply with AS 46.04.040, as amended by secs. 11 - 18  
12 of this Act, regardless of whether acceptance of proof of financial respon-  
13 sibility has expired under AS 46.04.040(f), as amended by sec. 16 of this  
14 Act.

15 \* Sec. 33. This Act takes effect immediately under AS 01.10.070(c).  
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# LAWS OF ALASKA

1990

Source

SE 307

Chapter No.

192

## AN ACT

Relating to property foreclosed upon by a municipality.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

THE ACT FOLLOWS ON PAGE 1, LINE 9

UNDERLINED MATERIAL INDICATES TEXT THAT IS BEING ADDED TO  
THE LAW AND BRACKETED MATERIAL IN CAPITAL LETTERS INDICATES  
DELETIONS FROM THE LAW; COMPLETELY NEW TEXT OR MATERIAL  
REPEALED AND RE-ENACTED IS IDENTIFIED IN THE INTRODUCTORY  
LINE OF EACH BILL SECTION.

Approved by the Governor: June 26, 1990  
Actual Effective Date: September 24, 1990

REPEALED AND RE-ENACTED

# EXHIBIT 8

Excerpt of Record on Appeal in OAH No. 17-1218-DEC and  
No. 17-1219-DEC



THE STATE  
of **ALASKA**  
GOVERNOR BILL WALKER

Department of  
**Environmental Conservation**  
DIVISION OF SPILL PREVENTION AND RESPONSE  
Prevention, Preparedness, and Response Program

555 Cordova Street  
Anchorage, AK 99501-2617  
Main: 907-269-7557  
Fax: 907-269-7687  
www.dec.alaska.gov

Facility #: 4057

**OIL DISCHARGE PREVENTION AND  
CONTINGENCY PLAN APPROVAL**

October 23, 2017

Tom Stokes  
Alyeska Pipeline Service Company  
P.O. Box 196660, MS 502  
Anchorage, AK 99519-6660

Subject: **Alyeska Pipeline Service Company, Valdez Marine Terminal Oil Discharge Prevention and Contingency Plan, ADEC Plan #: 14-CP-4057; Amendment 2017-1 Approval**

Dear Mr. Stokes:

The Alaska Department of Environmental Conservation (department) has completed its review of the major plan amendment application package for the Alyeska Pipeline Service Company, Valdez Marine Terminal Oil Discharge Prevention and Contingency Plan (plan) that was received on February 28, 2017. The department coordinated the State of Alaska's public review for compliance with 18 AAC 75, using the review procedures outlined in 18 AAC 75.455. Based on our review, the department has determined that your plan is consistent with the applicable requirements of the referenced regulations and is hereby approved. The department is still reviewing Amendment 2017-2; any changes approved in this Amendment (2017-1) that affect pages in Amendment 2017-2 will be incorporated as the review continues.

This approval applies to the following plan:

Plan Title: **Valdez Marine Terminal Oil Discharge Prevention and Contingency Plan**  
Documents: **N/A**  
Plan Holder: **Alyeska Pipeline Service Company**  
Covered Facilities: **Valdez Marine Terminal**

**PLAN APPROVAL:** The approval for the referenced plan is hereby granted **effective October 23, 2017**. A Certificate of Approval stating that the department has approved the plan is enclosed.

**EXPIRATION:** This approval **expires November 21, 2019**. Following expiration, Alaska law prohibits operation of the facility until an approved plan is once again in effect. All terms and conditions of the department's existing approval letter, dated January 14, 2015, remain in effect, with the extension in the department's April 4, 2017 letter. The expiration date of this amendment coincides with the existing plan

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approval. This amendment fulfills the requirements of Condition of Approval No. 5 and No. 6 of the January 14, 2015 approval letter. An amended certificate of approval is attached.

**CONDITION(S) OF APPROVAL:** The approval is subject to the following additional conditions:

**Condition of Approval No. 1: Requirement to Make Administrative Edits and Factual Corrections Prior to Publication.**

Prior to publication of the approved plan, APSC is required to make the following corrections. In addition, APSC must update the list of names, titles addresses, and telephone numbers of spill command and response personnel listed in the plan.

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Section 3.9 Figure 3.9-4. Include before publication the addition of the Open Water Crucial Skimmer Suite to the Open Water Task Force Leader training, for Open Water Task Force Leaders that will be on the Open Water barge with the Crucial Skimmer system.

**TERMS:** The approval is subject to the following terms:

1. **PROOF OF FINANCIAL RESPONSIBILITY:** The plan holder has provided the department with proof of financial responsibility per the requirements of AS.46.04.040 and 18 AAC 75.205 – 18 AAC 75.290.
2. **PUBLICATION OF PLAN:** The plan holder shall provide copies of the approved plan to the parties and in the format indicated in the enclosed distribution list in accordance with 18 AAC 75.408(c) not later than 30 days of this approval.
3. **AMENDMENT:** Except for routine updates under 18 AAC 75.415(b), an application for approval of an amendment must be submitted by the plan holder and approved by the department before a change to this plan may take effect. This is to ensure that changes to the plan do not diminish the plan holder's ability to respond to a discharge and to evaluate any additional environmental considerations that may need to be taken into account (18 AAC 75.415).
4. **RENEWAL:** To renew this plan, the plan holder must submit an application package to the department no later than 180 days prior to the expiration of this approval. This is to ensure that the submitted plan is approved before the current plan in effect expires (18 AAC 75.420).
5. **REVOCATION, SUSPENSION OR MODIFICATION:** This approval is effective only while the plan holder is in compliance with the plan as defined in AS 46.04.030(e) and with all of the terms and conditions described above. The department may, after notice and opportunity for a hearing, revoke, suspend, or require modification of the approved plan if the plan holder is not in compliance with the plan or for any other reason stated in AS 46.04.030(f). In addition, Alaska law provides that a vessel or facility that is not in compliance with a plan may not operate (AS 46.04.030). The department may terminate approval prior to the expiration date if deficiencies are identified that would adversely affect spill prevention, response or preparedness capabilities.
6. **DUTY TO RESPOND:** Notwithstanding any other provisions or requirements of this plan, a person causing or permitting the discharge of oil is required by law to immediately control, contain, and cleanup the discharge regardless of the adequacy or inadequacy of the plan (AS 46.04.020).

SOA 002

7. **NOTIFICATION OF NON-READINESS:** The plan holder must notify the department in writing, within 24 hours, after any significant response equipment as specified in the plan is removed from its designated storage location or becomes non-operational. This notification must provide a schedule for equipment substitution, repair, or return to service as described in 18 AAC 75.475(b).
8. **CIVIL AND CRIMINAL SANCTIONS:** Failure to comply with the plan may subject the plan holder to civil liability for damages and to civil and criminal penalties. Civil and criminal sanctions may also be imposed for any violation of AS 46.04, any regulation issued thereunder or any violation of a lawful order of the department.
9. **INSPECTIONS, DRILLS, RIGHTS TO ACCESS, AND VERIFICATION OF EQUIPMENT, SUPPLIES, AND PERSONNEL:** The department has the right to verify the ability of the plan holder to carry out the provisions of this plan and to access inventories of equipment, supplies, and personnel through such means as inspections and discharge exercises without prior notice to the plan holder. The department has the right to enter and inspect the facility in a safe manner at any reasonable time for these purposes and to otherwise ensure compliance with the plan and the terms and conditions (AS 46.04.030(e) and AS 46.04.060). The plan holder shall conduct exercises for the purpose of testing the adequacy of the plan and its implementation (18 AAC 75.480 and 485).
10. **FAILURE TO PERFORM:** In granting approval of the plan, the department has determined that the plan, as represented to the department by the applicant in the application package for approval, satisfies the minimum planning standards and other requirements established by applicable statutes and regulations, taking as true all information provided by the applicant. The department does not warrant to the applicant, the plan holder, or any other person or entity: (1) the accuracy or validity of the information or assurances relied upon; (2) that the plan is or will be implemented; or (3) that even full compliance and implementation with the plan will result in complete containment, control or clean-up of any given oil spill, including a spill specifically described in the planning standards. The plan holder is encouraged to take any additional precautions and obtain any additional response capability it deems appropriate to further guard against the risk of oil spills and to enhance its ability to comply with its duty under AS 46.04.020(a) to immediately contain and clean up an oil discharge.
11. **COMPLIANCE WITH APPLICABLE LAWS:** The plan holder must adhere to all applicable state statutes and regulations as they may be amended from time to time. This approval does not relieve the plan holder of the responsibility to secure other federal, state, or local approvals or permits or to comply with all other applicable laws.
12. **INFORMAL REVIEWS AND ADJUDICATORY HEARINGS:** If aggrieved by the department's decision, the applicant or any person who submitted comments on the application not later than the close of the public comment period set out under 18 AAC 75.455 may request an adjudicatory hearing in accordance with 18 AAC 15.195 –18 AAC 15.340 or an informal review by the Division Director in accordance with 18 AAC 15.185.

**Informal review requests** must be delivered to the Director, Spill Prevention and Response, 555 Cordova Street, Anchorage, Alaska 99501, within 15 days of the plan approval. A request for informal review is not required prior to making a request for adjudicatory hearing. A copy of the request should be sent to the undersigned.

SOA 003

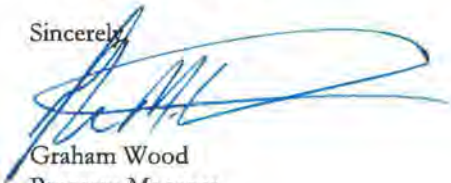
**Adjudicatory hearing requests** must be delivered to the Commissioner, Department of Environmental Conservation, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99801, within 30 days of the plan approval. If a hearing is not requested within 30 days, the right to appeal is waived. A copy of a hearing request must be served on the undersigned and the permit applicant as required by 18 AAC 15.200(c). A copy of the request must also be provided to the department in an electronic format, unless the department waives this requirement because the requestor lacks a readily accessible means or the capability to provide the items in an electronic format.

**13. NOTICE OF CHANGED RELATIONSHIP WITH RESPONSE CONTRACTOR:**

Because the plan relies on the use of response contractor(s) for its implementation, the plan holder must immediately notify the department in writing of any change in the contractual relationship with the plan holder's response contractor(s), and of any event including but not limited to any breach by either party to the response contract that may excuse a response contractor from performing, that indicates a response contractor may fail or refuse to perform, or that may otherwise affect the response, prevention, or preparedness capabilities described in the approved plan.

If you have any questions regarding this process, please contact Ron Doyel at 907-835-8012 or [ron.doyel@alaska.gov](mailto:ron.doyel@alaska.gov).

Sincerely,



Graham Wood  
Program Manager

Enclosures: Certificate of Approval, Number: 14CER-016.4  
Summary of Basis for Decision  
Approved Plan Distribution List

cc with enclosure:

- Scott Hicks, APSC
- Lori Burroughs, APSC
- Martin Parsons, APSC
- Sue Wood, APSC
- Amanda Hatton, APSC
- Sarah Moore, ADEC
- Geoff Merrell, ADEC
- Ron Doyel, ADEC
- Melissa Woodgate, ADEC
- Anna Carey, ADEC
- Pete LaPella, ADEC
- Shannon Miller, ADEC
- Dan Allard, ADEC
- Lee McKinley, ADF&G
- Contingency Plan Reviewer, ADNRR
- Alyssa Sweet, BLM
- Bonnie Friedman, BLM

SOA 004

cc with enclosure (cont'd):

Erika Reed, BLM  
Kevin Kearney, BLM  
Matt Carr, EPA  
Graham Smith, SPCO  
Jason Walsh, SPCO  
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LT Jason Scott, USCG MSU Valdez  
SPCO Records Center  
BLM Records Center  
Donna Schantz, PWS RCAC  
Linda Swiss, PWS RCAC  
Chuck Totemoff, Village of Chenega  
Travis King, Village of Chenega  
Kimber Moonin, Village of Tatitlek  
Mark Lynch, City of Whittier  
AnnMarie Lain, City of Valdez  
Tracy Raynor, Valdez Fire Department  
Randy Robertson, City of Cordova  
Mike Wells, Valdez Fisheries Development Association  
Rachel Kallander, Cordova District Fishermen United  
Ruth Knight, City of Valdez  
Tom Lakosh

SOA 005

**Application Package Distribution List**

Recipient	Organization	Address	City	State	Zip	Format requested	Email
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Kimber Moonin	Village of Tatitlek	P.O. Box 171	Tatitlek	AK	99677	Electronic web access	<a href="mailto:tatitlek.ira@yahoo.com">tatitlek.ira@yahoo.com</a>
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Randy Robertson	City of Cordova	P.O. Box 1210	Cordova	AK	99574	Electronic web access	<a href="mailto:citymanager@cityofcordova.net">citymanager@cityofcordova.net</a>

\*web access is available at <http://dec.alaska.gov/Applications/SPAR/PublicMVC/IPP/CPlansUnderReview>



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**OIL DISCHARGE PREVENTION AND CONTINGENCY PLAN  
BASIS OF DECISION**

October 23, 2017

**Plan Title:** Alyeska Pipeline Service Company Valdez Marine Terminal Oil Discharge Prevention and Contingency Plan

**Plan #:** 14-CP-4057

**Plan Holder:** Alyeska Pipeline Service Company

**Basis of Decision Prepared by:** Ron Doyel

**Findings**

This document presents the final findings that support the decision of the Alaska Department of Environmental Conservation (department) regarding the major amendment application package for the Alyeska Pipeline Service Company Valdez Marine Terminal Oil Discharge Prevention and Contingency Plan (plan).

Findings are provided to assist the interested public and participating reviewers in understanding the department's analysis of selected priority issues addressed as part of the decision process. In developing the findings, the department reviewed all public, agency and plan holder comments. This document is intended to respond to the most substantive issues raised by commenting parties. All department decisions must be supported by the regulations.

**Proposed Activity**

Alyeska Pipeline Service Company is requesting approval of its plan to amend the Valdez Marine Terminal. The proposed amendment includes changes for Volumes 1, 2 and 3 and addresses part of the department's condition of Approval (COA) Number 6 which requires submission of a update for VMT Scenario 4 by March 1, 2017. The proposed amendment also addressed the departments COA Number 5 which required the update of the non-mechanical response monitoring in the plan. Incorporation of new mechanical recover technology and tactitics into the Open Water response system was also a major componet of this amendment.

**Location**

Alyeska Pipeline Service Company conducts operations at the Valdez Marine Terminal.

**Environmental Risk**

A potential risk exists of oil spills entering the lands or waters of the state as a result of this operation.

**Authority**

Under AS 46.04.030, an owner or operator of a terminal facility must have an approved oil discharge prevention and contingency plan covering the facility. Through the plan review process, the department's objective is to ensure that the plan provides prevention and response measures that satisfy the state's regulatory requirements.

SOA 008

During the initial public review period, PWSRCAC requested that the department require the previously approved response training information be restored to the plan. The department found that the first version submitted by APSC for review did not include a detailed description of the training program for discharge response personnel as required by 18 AAC 75.425(e)(3)(I). APSC, through the RFAI process, submitted an updated training program that was reformatted to a table format. In the final public comment period, PWSRCAC questioned changes made to the training section during the process of reformatting this section.

The department has reviewed the changes to the field responder training descriptions and finds that the plan adequately describes the response training program. The module, and associated description and objective list for each course is sufficient to meet the detailed description of the training program required by 18 AAC 75.425(e)(3)(I). The following is in response to specific public comments on the changes or removal of some field response personnel training descriptions and specific training requirements:

- The SRVOSCP Course that was removed from several positions is a land operation course and therefore was not a relevant training for positions like Open Water Task Force Leader and other on-water response positions it was removed from.
- The Basic Marine Safety course that is necessary for on-water response personnel was not relevant to land-based positions like the Source Control Responder and therefore was removed from those positions.
- HAZWOPER was removed from some training programs for specific personnel because it is not required for non-field personnel like the Safety and Security Officers. Nonetheless, the department expects that all OSHA and other safety requirements are met for all responders so they are able to immediately carry out their roles in the response.
- Changes were also made for the ICS training that is required for each position but the department has reviewed this change and is comfortable with the Task Force Leaders getting the ICS/041 Task Form Leader/Group Supervisor training and not the ICS 202 Field Command training, because the training is specific for Task Force leaders.
- The job role numbers were deleted because they are not used in APSC's current training management program (AMS-011-01). The job role numbers were not defined in the plan, other than being associated with the job role. The job role remain in the plan. The job role titles are detailed enough and in conjunction with Appendix B of Volume 3 to describe the job roles of responders.

As laid out in Volume 1 Section 3.9 the Response Training is sufficient to meet 18 AAC 75.425(e)(3)(I) and 18 AAC 75.445(j). The department will continue to provide oversight to evaluate the adequacy of the response training program through attendance in training, evaluation of exercises, and training program audits. In order to effectively assess the training program, APSC continues to comply with the Condition of Approval No. 2 from the January 14, 2015 VMT plan renewal that requires APSC to provide the training schedule for all response training, including online, in-class and in-the-field training, and APSC ensures the department is notified of any changes to the schedule as soon as practicable to enable the department to attend training.

Flats was prioritized for immediate deployment the vessels necessary would be available. Both versions of Scenario 4 have three Sensitive Area Task forces; Sensitive Area Task Forces 1 and 2 begin deployment by hour 3 in both the previous and updated versions. Sensitive Area Task Force 3 starts at hour 12 compared to hour 48 in the previous version, allowing more sensitive area protection tactics to be completed in the updated scenario.

The 72-hour trajectory for the scenario shows oil moving west. The protection of sensitive areas east of the spill are protected later in the updated version of Scenario 4 than they were previously but are still completed prior to a trajectory showing oil moving toward them. Deployment of the Solomon Gulch Hatchery will begin by hour 12 and Valdez Duck Flats deployments will begin by hour 36. The deployments of the Solomon Gulch Hatchery and the Valdez Duck Flats are followed through to completion in the Response Actions tables and the Mobilization Chart. These timeframes are a way of organizing the scenario, but response actions will occur as soon as possible within these time frames. In a real incident, the Unified Command will work to ensure that response activities occur continuously as long as the conditions allow for safe operations including night operations.

The Valdez Fisheries Development Association states that APSC's plan should demonstrate the "best possible outcome for containment of the spill and the protection of stakeholder assets" as stated in their March 31, 2017 letter. Other commenters including the PWSRCAC, City of Valdez, and Cordova District Fishermen United also expressed concern that there is a loss in protection of the Solomon Gulch Hatchery and Valdez Duck Flats in this amendment. To ensure the best outcome for all sensitive areas and resources the department has to ensure that all response resources that are available are prioritized and used to ensure the best outcome for the state of Alaska as a whole. The Solomon Gulch Hatchery and Valdez Duck Flats remain high priorities for protection in the Port of Valdez. Tactics specific to the Valdez Duck Flats and the Solomon Gulch Hatchery remain in the plan, and the response timeframes and capability to deploy these tactics have not changed in this amendment. Equipment remains staged to deploy these specific sensitive areas. The Solomon Gulch Hatchery and Valdez Duck Flats remain the only sensitive areas in the port with equipment specifically designated to deploy them. Volume 3 Section 9.6 still commits APSC to installing permanent boom whenever fish fry are in the fish pens.

PWSRCAC was concerned about the overall reduction in response resources for sensitive area protection in the Scenario 4 updates. The department has reviewed the updates to the scenario and finds overall appropriate resources are deployed for sensitive area protection. The updates to Scenario 4 are sufficient for this review, but the department will continue to exercise sensitive area protection and evaluate equipment needs and prioritization strategies.

**Issue #6      Update of the Solomon Gulch Hatchery and Valdez Duck Flats Sensitive Area Protection Mobilization Decision Matrix**

Statement of Issue:

Ensure that the Matrix will be a useful tool in assisting initial decisions regarding sensitive area protection specific to the Duck Flat and Solomon Gulch Hatchery.



Regulatory Authority

18 AAC 75.425(e)(3)(J)(iii) requires “identification of which areas will be given priority attention if a discharge occurs.”

Finding

The Sensitive Area Prioritization Matrix in the plan is used as a way to make sure that some of the sensitive areas that may be affected in a spill, the Valdez Duck Flats and Solomon Gulch Hatchery, are identified to be “given priority attention” as required under 18 AAC 425(e)(3)(J)(iii). The intent of the Matrix is to incorporate the most relevant factors in an actual incident, and to assist in the initial decision-making process of whether to deploy the Valdez Duck Flats and Solomon Gulch Hatchery and to confirm this decision is made in a timely manner. However, as explained in Section 9.0.2.1 of Volume 3, exigent conditions must be taken into consideration so that responders are able to ensure that the spill containment recovery and sensitive protection can occur concurrently, based on incident specific objectives and prioritization.

The VMT plan identifies multiple sensitive areas in Port Valdez that should be given priority attention, and the Matrix is an additional step to ensure the Valdez Duck Flats and the Solomon Gulch Hatchery are evaluated for deployment in a timely manner.

Comments were received from PWSRCAC expressing concern for changes to the Matrix with the removal of wave height, visibility, and current direction. The previous Matrix was more complex and required the initial on-scene incident commander to evaluate conditions that were challenging to capture correctly and quickly. It was identified that the Matrix was not assisting in the prioritization of all sensitive areas in Port Valdez and was being used ineffectively in making initial decisions. With the previous Matrix, in exercises, resources were mandated to deployment of the Valdez Duck Flats and Solomon Gulch Hatchery when the resources would have been more appropriately deployed to other sensitive areas in Port Valdez. The updated Matrix has been modified to include the most influential initial inputs for decision-making early in a response before a Unified Command, Operations Section, and Environmental Unit can be stood up.

The department finds the updated Matrix does not change the commitment to evaluate and deploy the Valdez Duck Flats and Solomon Gulch Hatchery within the same timeframes. The department will continue to assess this updated tool in exercises to ensure its usefulness in appropriately prioritizing response actions.

**Issue #7      Decant Plans and Retention Time**

Statement of Issue:

Ensure retention times listed in the plan follow the vessel specific Load and Decant plans.

Regulatory Authority

18 AAC 75.425(e)(1)(F) requires the VMT plan to have the following:

(ix) procedures for transfer and storage of recovered oil and oily water, including methods for estimating the amount of recovered oil;

**Table 3.1-3.Scenario 3 - Day 1, Response Actions and Tactics**

<i>Formatted in accordance with ADEC 18 AAC 75.425(e)(1)(F)</i>	<b>Day 1 Initial Response 1900 – 2400 (Hours 0-5)</b>	<b>Day 1 (Night Shift continued) 2400 – 0600 (Hours 5-12)</b>	<b>Day 1 Day Shift 0600 – 1800 (Hours 12-24)</b>	<b>VMT Technical Manual Tactic Reference</b>
<p><b>Safety, Medical, and Security</b></p> <p><b>and</b></p> <p><b>(ii) Preventing/Controlling Fire Hazards</b></p>	<p>IRIC (VMT Operations Lead Operator) initiates the following:</p> <p>Security TF 1:</p> <ul style="list-style-type: none"> <li>• Evacuate non-essential personnel.</li> <li>• Control site access (<b>VMT-S-4</b>).</li> <li>• Provide EMT support.</li> </ul> <p>Fire Protection TF 1:</p> <ul style="list-style-type: none"> <li>• Secure ignition sources.</li> <li>• Contact VMT Operations for potential facility shut down and source control.</li> <li>• Assist with site control.</li> </ul> <p>Safety TF 1:</p> <ul style="list-style-type: none"> <li>• Ensure proper headcount - all personnel clear of area.</li> <li>• Perform atmospheric monitoring.</li> <li>• Conduct ICS 201-5 Site Safety &amp; Control Analysis (<b>VMT-S-1</b>).</li> <li>• Begin preparation of ICS 208 Site Safety Plan (<b>VMT-S-2</b>).</li> </ul>	<p>IMT:</p> <ul style="list-style-type: none"> <li>• Submit Site Safety Plan for approval.</li> </ul> <p>Security TF 1:</p> <ul style="list-style-type: none"> <li>• Re-evaluate site control and modify as needed.</li> </ul> <p>Fire Protection TF 1:</p> <ul style="list-style-type: none"> <li>• Evaluate changing conditions for fire risks.</li> <li>• Fire team on standby to assist Safety Task Force as needed.</li> </ul> <p>Safety TF 1:</p> <ul style="list-style-type: none"> <li>• Continue atmospheric monitoring for vapor levels.</li> <li>• Provide Safety support for atmospheric monitoring, safety briefings, PPE checks, and decon checks (<b>VMT-S-3</b>).</li> </ul>	<p>IMT:</p> <ul style="list-style-type: none"> <li>• Monitor conditions and adjust plans accordingly.</li> </ul> <p>Security TF 1:</p> <ul style="list-style-type: none"> <li>• Provide Security for VEOC and staging areas, as needed.</li> </ul> <p>Fire Protection TF 1:</p> <ul style="list-style-type: none"> <li>• Evaluate changing conditions for fire risks.</li> </ul> <p>Safety TF 1:</p> <ul style="list-style-type: none"> <li>• Conduct continuous atmospheric monitoring.</li> </ul>	<p><b>VMT-S-1</b> Site Entry Procedures and Site Characterization</p> <p><b>VMT-S-2</b> Site Safety Plan Development</p> <p><b>VMT-S-3</b> Personal Protective Equipment</p> <p><b>VMT-S-4</b> Site Control</p> <p><b>VMT-S-5</b> Personnel Decontamination (typical/dry)</p>

## Section 3.1 VMT-S-1, Site Entry Procedures and Site Characterization

### 3.1.1 Tactic Description

This tactic is designed to reduce the health and safety risks for responders in responding to spills with potentially harmful vapors emanating from the spilled material. Site characterization is a three-step process including (1) preliminary evaluation using a pre-entry survey, (2) initial site characterization, and (3) ongoing site characterization and monitoring. Field measurements and communication of information to responders are extremely important to minimize risk.

Site characterization is initiated from a safe distance and operations are conducted in a manner that ensures safe conditions for the level of respiratory protection being used. For example, the spill is approached from upwind to avoid exposure to vapors.

The Initial Response Incident Commander (IRIC), in most cases, initiates the process carried out by other persons. The IRIC checklist can be found in Appendix B. In the case of a spill to water, the first APSC vessel on scene begins site characterization with a pre-entry survey. While on land, site characterization is carried out in accordance with [SA-38](#), *Corporate Safety Manual*, and initiates with a pre-entry survey similar to that of the on-water survey.

Additional reference material is available in [SA-38](#), Section 1.5, “*Crude Oil or Petroleum Product Spill Emergency and Post Emergency Response*,” and Section 1.8 “Respiratory Protection,” Table 7, “Respiratory Protection Selection for Selected Contaminants.”

### 3.1.2 Pre-entry Survey

The survey includes, but is not limited to, identifying the following:

- Conditions that through either inhalation or skin absorption are immediately dangerous to life and health (IDLH) or pose other life-threatening hazards.
- Potential ignition sources.
- Type of material discharged.
- Approximate quantity or description of spilled material.
- Location of spill incident.
- Time the discharge occurred.
- Cause of the discharge.
- Weather conditions on site [wind, sea state (wave height), state of tide, ice conditions].
- Results of any air sampling that has been completed.
- Whether internal combustion engines are normally allowed in the area.
- Other on site problems/factors that must be considered before initiating a response.

The results of the pre-entry survey are reported to the Operations Section or SERVS Duty Officer (see *Form ICS 201-5*, *Site Safety and Control Analysis*, or the *Tactical Command Worksheet*). The pre-entry survey serves as a basis for initial site characterization and determination of appropriate personal protective equipment (PPE).

consideration. It is the responsibility of the Unified Command/Incident Commander or, if early enough in the response, the IRIC to gather incident specific information so incident objectives and prioritization of tasks can be made that enable responders to execute spill containment, spill recovery/mitigation, and sensitive area protection actions simultaneously.

To use the matrix, extract the value for the on scene conditions for each row, and add the resulting values. A score equaling or exceeding 12 indicates immediate action should be considered.

**Table 9.0-1. Solomon Gulch Hatchery and Valdez Duck Flats Sensitive Area Protection Mobilization Decision Matrix**

**Instructions:**

Select the value for the current on-scene conditions for each potential impact area; add the resulting scores. An event total equal or greater than 12 indicates immediate action should be considered.

POTENTIAL IMPACTS	ASSESSMENT CRITERIA	VALUE	SCORE
<b>MAGNITUDE OF DISCHARGE</b>	> 10,000 bbl or Unknown	4	
	101 bbl to 10,000 bbl	3	
	5 bbl to 100 bbl	2	
	< 5 bbl	0	
<b>SOURCE CONTROL</b>	Unsecured or Unknown	2	
	Secured	0	
<b>CONTAINMENT *</b>	Port Valdez Uncontained	4	
	Port Valdez Contained	3	
	Has Entered Settlement Pond System	1	
<b>TIDE CYCLE AT DISCHARGE *</b>	> 2 hrs. Flood Remaining	2	
	Ebb	0	
<b>CURRENT WIND VELOCITY *</b>	30+ Knots	2	
	10-29 knots	1	
	0-9 knots	0	
<b>CURRENT WIND DIRECTION *</b>	From West	5	
	From South	5	
	From East	0	
	From North	0	
<b>EVENT TOTAL</b>			

\*Potential impact score is zero (0) for events currently isolated to land.

**Note:** The total estimated deployment time for both Solomon Gulch Hatchery and the Valdez Duck Flats, when done simultaneously, would range from six hours in favorable conditions, to ten or more hours in unfavorable conditions.

The matrix is guidance for initial decision making and it is expected that once the IMT is available to prioritize sensitive areas, the matrix is no longer the most appropriate tool.

### **9.0.3 Safety Aspects Of Sensitive Area Protection**

Safety is the most important consideration in response. The safety tactics detailed in Section 3 provide a foundation for the conduct of safe response operations. The Group Supervisor and Task Force Leaders have the lead accountability for assuring safety. An On-Site Safety Specialist (OSS) will normally be assigned to the Nearshore group to assist in ensuring the safe conduct of response operations.

Specific safety issues include:

- Many of these deployments involve towing equipment in shallow water. Care must be taken when working close to the shoreline.
- Some of the deployments involve going ashore to attach boom to anchor points. Care must be taken to avoid contact with potentially dangerous wildlife.

Care needs to be exercised when working on oiled shorelines to avoid slips, trips and falls. Caution needs to be exercised when workers move from the support boats to the shore.

### **9.0.4 Communications**

Before sensitive area protection deployments begin, each responder will be briefed on the communications plan, which will cover communication methods such as types of radios to use and the channels designated for field operations (see Tactic VMT-LP-2, [Section 12.2](#)).

**Table 12.5-8. Oil Recovery Equipment - "Vacuum Systems"**

Quantity	Vacuum System	No. /Vacuum System/ Weight and Dimensions	Nameplate Recovery (BBL/HR)	Auxiliary Equipment
1	Shorevac*	<ul style="list-style-type: none"> <li>Weight (lbs): 902</li> <li>Dimensions: 69 in. x 47 in. x 48 in.</li> </ul> Operational Characteristics and Limitations: <ul style="list-style-type: none"> <li>Hand lance can be fitted with different nozzles as dictated by the local environment</li> </ul> Location/Ownership: <ul style="list-style-type: none"> <li>APSC</li> </ul>	Up to 1,195	<ul style="list-style-type: none"> <li>Hand Lance</li> <li>Vacuum Head</li> <li>Storage Drums</li> <li>Trailer</li> <li>Suction and Discharge Hoses</li> </ul>
1	Ro-Vac	<ul style="list-style-type: none"> <li>Weight (lbs): 1,540</li> <li>Dimensions: 78 in. x 58 in. x 74 in.</li> </ul> Operational Characteristics and Limitations: <ul style="list-style-type: none"> <li>N/A</li> </ul> Location/Ownership: <ul style="list-style-type: none"> <li>VRC VMT/ APSC</li> </ul>	Up to 2,000	<ul style="list-style-type: none"> <li>Hand Lances</li> <li>Vacuum Head</li> <li>Storage Drums</li> <li>Suction and Discharge Hoses</li> </ul>

\*The vacuum system listed in Table 12.5-17, Shoreline Unit Contents is included in these totals.

**Table 12.5-9. Boom Inventory and Operating Limits**

Boom Type*/**	Quantity	Tactically Assigned	Operating Limits* (Wave Height)
Open Water	5,800 ft.	2,500 ft.	0-6 ft.
Calm Water	36,650 ft.	8,300 ft.	0-3 ft.
Fire Boom	3,600 ft.	2,500 ft.	0-3 ft.
Snare Boom	9,000 ft.	None	N/A (placed on shore)
Sorbent (Sausage) Boom	4,000 ft.	None	Calm water only
Intertidal Boom	4,150 ft.	All***	N/A (placed along shore)
Current Buster 2 or 4	10 Systems	2 Systems	0-6 ft.
Current Buster 8	2 Systems	2 Systems	0-6 ft.

\*Boom types and operating limits based on ASTM information and the World Catalog of Oil Spill Response Products.

\*\* The Boom listed in table Table 12.5-17, Shoreline Unit Contents is included in these totals.

\*\*\* 2500 ft. of the intertidal boom may be substituted with calm water boom.

**Table 12.5-10. Boom Anchor Systems**

Anchor Type (lbs.) *	Quantity
10-100	30
101-250	10
251-500	6

\*The anchors listed in Table 12.5-17, Shoreline Unit Contents are included in these totals.

**Table 12.5-11. Pumps - Nearshore / Shoreline**

Pump Type*	No.	Weight (lbs.)	Capacity (BBL/HR)	Location	Owner-ship
Centrifugal 4"	4	3,200	1,107 at 85 psi	VRC	APSC
Centrifugal 6"	2	3,200	2,000 at 85 psi	VRC	APSC

\*The pumps listed in Table 12.5-17, Shoreline Unit Contents are included in these totals

- iv. Revise the table in Section 12.7.6.1 Availability Status Tracking to reflect the number of fishing vessels required to respond to a RPS volume oil spill occurring during any time of the year. *See Findings Document, Issue No. 22.*  
*These edits are required per 18 AAC 75.432 and 18 AAC 75.445(g)(1) as APSC has not successfully demonstrated that these resources are not necessary for an RPS volume response.*
- v. Section 15, Berth Operations Tactics. Include pre-deployed boom for exclusion and diversion for Berths 4 and 5. *This edit is required for accuracy and depiction of APSC response strategies.*
- w. Appendix A, Equipment Descriptions. Please update citations. *These edits are needed for accuracy.*
  - i. A.1-5 Oil Storage Barge – Barge 450-7. Please correct the citation for storage capacity of barge 450-7 to reflect its location in Section 12, Table 12-15.
  - ii. A.2 Skimmers. Please update this section to provide references to the appropriate tables in Section 12 of Volume 3 for recovery rates and capacity.

### **Condition of Approval No. 2: Requirement to Provide Prevention and Response Training Schedules.**

APSC is required to submit schedules for prevention and response training to the department:

- a. The prevention training schedule shall be submitted annually and training notices as they are distributed with updates as needed to allow for agency observation and evaluation. Further discussion provided in Issue No. 13 in the attached findings document.
  - i. The training schedule for response training shall be submitted annually, including online, in class and in the field training, and with updates as needed to allow for agency observation and evaluation. Further discussion can be found in Issue No. 17. *[Revised]*.

The initial prevention and response training schedules must be submitted **within 90 days of this approval** with subsequent submittals due to the department by **January 5 of each year**.

*This condition is reasonable and necessary to ensure the department is able to verify training plans and respective training area sufficient to meet the requirements of 18 AAC 75.020 and 18 AAC 75.445(j).*

### **Condition of Approval No. 3: Requirement to Modify Sensitive Area Protection components of the plan.**

APSC is required to make the following modifications in order to ensure the plan includes effective and readily implementable strategies and tactics for protection of environmental sensitive areas and areas of public concern.

- a. APSC must conduct additional research for the purpose of verifying that the Solomon Gulch Hatchery and Valdez Duck Flats Sensitive Area Mobilization Decision Matrix contained an unintentional duplication for visibility as a consideration for deployment. Alyeska must provide the department with a summary of their findings no later than **March 1, 2015**. This requirement is discussed further in Issue No. 23.
- b. APSC must restore the sensitive area deployment strategies, resources and equipment for the Valdez Duck Flats and Solomon Gulch Hatchery **prior to publishing the plan**. This requirement includes restoration of committed personnel and equipment resources and simultaneous deployment of the east and west sides of the Valdez Duck Flats. This requirement is discussed further in Issue No. 23.
- c. Over the course of this plan approval, Alyeska is required to work with SPAR, the U.S. Coast Guard, contingency plan holders in Port Valdez, and other stakeholders to improve the Geographic Response Strategies (GRS) for Port Valdez so they are robust and adequately protect sensitive areas potentially impacted by Alyeska's operations. Once that

apparent that this is not an effective way to manage the plan content. At multiple exercises it was clear that responders and planners were unaware of the SATG and its contents. The department agrees with PWS RCAC that it is important for the SATG strategies and tactics to be consistent with the general strategies and tactics for sensitive area protection found in Volume 3, and that it would be better for all of the site-specific protection strategies to be located in one document. Likewise, the department agrees that the strategies in the SATG should be kept current through training or discharge exercises. Therefore, as a component of Condition of Approval No. 3, the department is requiring APSC to:

- a. Format the tactics in the SATG to reflect the format of the tactics described in Volume 3;
- b. Include the updated site-specific strategies and tactics in Volume 3; and
- c. Commit to deploying each of the sensitive area strategies during the course of the plan renewal cycle. Deployments may be conducted through regular training exercises or within the discharge exercise program. In either case, the department must be notified of the deployments sufficiently in advance to observe them. Any lessons learned must be incorporated into the plan. Any resulting plan amendments will be reviewed in accordance with department regulations.

Mr. Tom Lakosh stated that there needs to be immediately deployable pre-positioned response equipment at sensitive areas in Port Valdez such as automatically deployed deflection boom and culvert gates. Mr. Lakosh did not provide compelling reason to support that APSC is incapable of protecting sensitive areas and areas of public concern with industry standard resources of personnel, boats, and boom. The department's statutes and regulations do not support requiring the plan holder to acquire equipment and other resources beyond those needed to demonstrate the ability to protect sensitive areas and areas of public concern before oil reaches those sites and control the further spread of oil.

The department's analysis and decisions concerning plan commitments to protect environmentally sensitive areas and areas of public concern extend beyond the specific comments received during the review period. The plan holder must be capable of protecting sensitive areas in Port Valdez while simultaneously containing and controlling the further spread of oil in a catastrophic incident. The proposed plan includes strategies, tactics and site specific strategies for protection of sensitive resources, including the site specific strategies in the SATG as discussed above. In addition, a rapid decision Matrix and specific strategies for the prioritized protection of the Valdez Duck Flats (Duck Flats) and Solomon Gulch Hatchery have been captured in Volume 3 of the plan. Nonetheless, the department finds that we cannot accept some of the proposed modifications, specifically those to the Duck Flats and Solomon Gulch Hatchery protection plans at this time.

The prioritization of the Duck Flats and Hatchery has been captured in multiple plan review decision documents, notably in 1997 and in 2000. The primary concerns throughout the years of working on developing protective strategies were that APSC had the personnel and equipment resources to deploy those protections simultaneously with on-water control and containment efforts and secondly, that the protections would be in place in a timeframe that would reasonably be completed before oil would reach either location. The timing goals were implemented following the real life experience of the T/V Eastern Lion discharge in 1994, when both the Duck Flats and Hatchery experienced oil sheening well before predictive models would have anticipated.



In collaboration with a multi-stakeholder workgroup including state and federal trustee agencies, and as a condition of plan approval in 1997, APSC developed the Solomon Gulch Hatchery and Valdez Duck Flats Sensitive Area Protection Mobilization Decision Matrix (Matrix.) The Matrix provides criteria and assessment points for use by the initial incident commander within the first one or two hours of a spill. In this plan application, APSC has slightly modified the Matrix to remove what seems to be a duplication for purposes of scoring whether or not to immediately deploy the protective strategies regarding visibility. The department agrees that the duplication may be an error and that it is unlikely to cause significant delays in deployment decisions. However, we are requesting APSC to review their records to verify whether the duplication was an intentional component of the matrix. Since no one on the APSC plan team participated in the Matrix development, it seems prudent to conduct the research. The department is not, however, requesting APSC to restore the Matrix to its original scoring configuration at this time, see Condition of Approval 3a.

As part of past conditions of approval, APSC worked to be able to deploy both Valdez Duck Flats and Solomon Gulch Hatchery protection tactics within 6 – 10 hours of the decision to implement them. On February 19, 2002, the department and BLM representatives from the Joint Pipeline Office conducted an unannounced discharge exercise to determine whether APSC responders could meet the timing and effectiveness expectations. APSC responders successfully deployed the protections for both sites, and the successful strategies, including resource needs, were incorporated into the plan through an approved amendment on June 27, 2002. APSC caveats the deployment timeframe in the proposed and past plans by stating that it may be longer in “unfavorable conditions”. The department notes that there is no specific definition provided for “unfavorable conditions”. As acknowledged in the department’s October 8, 1999 approval of the completion of the 1997 Condition of Approval No. 8 – Environmentally Sensitive Areas and Shoreline Protection, deployment of protective strategies will take longer in RMROL conditions. It is expected that in non-RMROL conditions, however, APSC will effectively and simultaneously deploy the Duck Flats and Solomon Gulch Hatchery protections in no more than 10 hours.

The department’s definition of when a site is protected means the oil would not impact the sensitive area if the oil was to reach the sensitive area protection mechanism. In the case of the Valdez Duck Flats and Solomon Gulch Hatchery, the protection mechanism is exclusionary boom using intertidal boom in combination with calm water boom. The intertidal boom APSC uses has three chambers, one chamber on top of the boom filled with air for buoyancy and two chambers on the bottom of the boom filled with water to both seal the shoreline and provide a skirt to the boom to prevent oil from reaching the protected area. The water chambers are a critical component to protect the sensitive area by providing the protection on the beach when the tide is lower and in the water when the tide is higher. If these chambers are not filled, the boom is ineffective.

Personnel and equipment resources committed to protection of the Valdez Duck Flats and Solomon Gulch Hatchery have been reduced in the plan application, and the Duck Flats strategy was modified so that the east and west sides are deployed sequentially rather than simultaneously. To date, the proposed strategies have not been successfully implemented in two discharge exercises (May and September 2014) nor in multiple training exercises in the intervening months. The problems range from failure to complete the boom deployment (i.e., filling the water chambers), successfully monitoring and adjusting the boom deployments through tide cycles and in periods of darkness, and not being able to complete both site deployments within the 6 – 10 hour timeframe

stated in the plan. Initially, it was thought that some of the difficulties were due to training, but APSC ramped up training and showed significant improvement in the September 4, 2014, exercise.

The September 4, 2014 exercise was designed by APSC to demonstrate that APSC could protect these sensitive areas within the required timeframe of 6-10 hours with the proposed reduction in personnel and equipment. The department evaluated this exercise. By hour 10 the exclusion boom was in place but the water chambers were not all filled, and consequently the boom skirt and shoreline seal was not thought to be effective to prevent oil from impacting the sensitive area inside the boom.

The department finds the reduction in personnel and vessels reduced APSC's ability to protect the sensitive areas within the required timeframe because the resources are not available to fill the water chambers during the required timeframe during low water. APSC's method of filling the water chambers is problematic for three reasons: the boom will not have an effective skirt to prevent oil from migrating under the boom into the sensitive area until all of the chambers are full, the tide may not be able to fill the boom to the same pressure as the water pumps, possibly reducing the effectiveness of the boom, and with the water valves open to allow the tide to fill the water chambers, if oil is present, then the boom may be filled with oily water, creating a difficult waste management problem.

APSC has asserted that it is not necessary to fill the water chambers to achieve effective protection, and that allowing the chambers to fill on an incoming tide is adequate. The difficulty with this assumption, particularly with the time sensitive nature of protecting the Solomon Gulch Hatchery and Valdez Duck Flats, is that the incoming tide may likely bring oil or oil sheen with it. Without an effective boom skirt provided by properly filled water chambers, it is not likely that the sites will be effectively protected in average conditions, including the conditions used in the RPS volume scenario. The manufactures websites for the main manufactures of intertidal boom that may be used by APSC all recommend the use of water pumps to fill the water chambers and do not mention the method APSC uses of allowing the tide to fill the water chambers. One manufacture contacted by phone on November 19, 2014, Versetech, did not recommend using the tide to fill the boom.

To date, APSC has not demonstrated that timing and completeness of the deployments is fully achievable, and the department cannot approve the revised strategies and reduced resource commitments with no plausible expectation that as devised, they will provide effective protection of the Duck Flats and Hatchery before oil reaches them. As a result, the department is requiring APSC to restore the Duck Flats and Hatchery protection strategies, including sequencing and personnel and equipment resources to the plan as part of Condition of Approval No. 3b.

The department encourages APSC to take full advantage of the agency and stakeholder participation in the VMT Coordination Group to assess the resources and strategies necessary to protect the Duck Flats and Hatchery. Re-assessment may lead to proposed reductions in resources, and if so, APSC is welcome to demonstrate they can implement protective strategies with fewer resources and then submit an amendment to the plan for review.

- High winds driving water against booms may put pressure on anchor points that can result in failure of boom moorings.
- Most skimmers are stable enough to operate in rough sea conditions associated with high winds. Skimming efficiency is reduced by waves that accompany high winds.
- Winds affect the launching and recovery of skimmers. Launching and recovery may be undertaken safely on the lee side of barges and boats.
- Strong winds may make it dangerous for personnel to operate on a vessel's deck.
- Safety considerations limit launching, recovering, or operating small skiffs and workboats in strong winds and seas.
- Large vessels and tugs are largely unaffected by strong winds; however, crews may not be able to perform response tasks on deck or over the side due to safety considerations.
- Both strong winds and flat-calm conditions affect dispersant and burning efficiencies.

### 3.4.3.2 Sea State, Tide and Current Considerations

Sea state is a function of wind, currents, and in shallow areas, tidal levels. Tides generally do not impact an open water response, unless strong tidal currents occur in combination with wind. For example, in some areas of PWS, half tide on the ebb or flood against a strong wind can create a sea state that affects safety or efficiency of response operations. If wind and tidal currents are sufficiently strong, they could preclude a response. A rule-of-thumb RMROL condition for wave height is 3 meters (10 feet); although this is heavily influenced by wavelength or period and ambient temperature, visibility and precipitation also affect this limitation. Tide tables are readily available to responders and tidal predictions are included in IAPs for the benefit of spill responders.

Currents in Port Valdez and Valdez Narrows are influenced by the flow of fresh water into the port on a seasonal basis. Certain locations in Port Valdez, such as the east end of the port, Jackson Point/VMT, and Valdez Narrows, can experience more pronounced local influences during certain times of the year. These local influences occur during a portion of the time period of mid-April to the end of September, roughly six months of the year. Expressed as an estimated percentage this could be 40 percent of the year. The combined overall effect to oil spill response operations is slight.

The impact of tides and currents are determined on a case-by-case basis. A summary of sea state limitations is provided in [Table 3.4-1](#). Sea State, Tide, and Current Considerations Summary:

- Mechanical containment, recovery equipment, and in-situ burning function best in calm seas.
- Use of boom for exclusion and entrapment must consider current so as to minimize impact of entrainment.
- Heavy seas often preclude beach landings.
- Short, choppy waves generally limit response equipment efficiency; however, longer-period swells do not usually impede efficiency.
- Launching and recovery of skimmers is affected in rough sea conditions.
- Decks awash in heavy seas may make it dangerous for personnel to work.
- Small launches and workboats may not always be safely launched, recovered, or operated in strong winds and seas.

- Large vessels and tugs are generally unaffected by large seas; however, the crews may not be able to perform response tasks on deck or over the side.
- Sea states can be dampened by thick oil. Different tide cycles produce differing sea states requiring different approaches to response.
- Heavy seas combined with low temperatures may contribute to vessel icing and create safety concerns for the vessel and crew.
- In some circumstances, sea states resulting from winds greater than 30 knots can drive oil below the surface and mix into the top 20 feet of the sea.
- Heavy sea states may hamper or preclude rescue of endangered personnel from shorelines, distressed vessels, or man overboard.
- Water depth is a significant consideration in carrying out oil spill response operations.
- Shallow depths can constrain oil removal operations by restricting use of watercraft and equipment.
- Small vessel access also can be affected by water depth because sea conditions can change rapidly in deep bay areas.

**Table 3.4-1. Summary of Wind and Sea Limitations**

<b>Response Method</b>	<b>Conditions that could Adversely Impact a Response and Frequency of Occurrence and Duration</b>	<b>Potential Temporary Prevention and Response Measures that could be Considered during RMROL Conditions</b>
<b>Mechanical</b>	<ul style="list-style-type: none"> <li>• Winds greater than 30 to 40 knots, but dependent on the impact of other variables.</li> <li>• Winds of 30 knots are reached or exceeded on an annual basis approximately 2 percent of the time. Winds of 30 knots are reached or exceeded in the summer less than approximately 1 percent of the time. Winds of 30 knots are reached or exceeded in the winter approximately 3 percent of the time.</li> <li>• Winds 40 knots or above occur less than approximately 1 percent in the winter.</li> <li>• Seas greater than 3 meters (10 feet) with strong tides and currents.</li> <li>• RMROL conditions for seas are reached or exceeded on an annual basis approximately 5 percent of the time. RMROL conditions for seas are reached or exceeded in the summer less than approximately 2 percent of the time. RMROL conditions for seas are reached or exceeded in the winter approximately 15 percent of the time.</li> <li>• Currents of one knot are exceeded approximately 25 percent of the time, which requires skimming and containment to be done with the current.</li> </ul>	<ul style="list-style-type: none"> <li>• Additional monitoring of boom for splash over. Consider use of larger boom.</li> <li>• As a safety measure, responding vessels mobilizing to the spill site advised to travel in groups via sheltered routes.</li> <li>• The response organization will maximize oil recovery for the conditions by focusing resources where they can work efficiently.</li> <li>• Skimming and containment activities will make use of lees and reduced fetch by operating behind landmasses.</li> <li>• Skimming vessels will work downwind/ current to minimize entrainment.</li> </ul>
<b>Dispersants</b>	<ul style="list-style-type: none"> <li>• Winds greater than 27 knots across the track of the dispersant aircraft would likely preclude airborne application of dispersant.</li> <li>• Winds of 30 knots are reached or exceeded on an annual basis approximately 2 percent of the time. Winds of 30 knots are reached or exceeded in the summer less than approximately 1 percent of the time. Winds of 30 knots are reached or exceeded in the winter approximately 3 percent of the time.</li> </ul>	<ul style="list-style-type: none"> <li>• Dispersant application limited to directly downwind and upwind to avoid inaccurate application in high winds.</li> </ul>
<b>In-Situ Burning</b>	<ul style="list-style-type: none"> <li>• Winds greater than 20 knots make it difficult to ignite oil or maintain the burn.</li> <li>• Winds of 20 knots are reached or exceeded on an annual basis approximately 25 percent of the time. Winds of 20 knots are reached or exceeded in the summer less than approximately 10 percent of the time. Winds of 20 knots are reached or exceeded in the winter approximately 30 percent of the time.</li> <li>• In-situ burning is limited by sea state in much the same way as mechanical response, because in-situ burning requires the use of fire boom containment.</li> </ul>	<ul style="list-style-type: none"> <li>• There are no alternatives available</li> </ul>

**Table 3.4-2. Wind Speed Data – Valdez, Alaska**

Month	Average Speed mph (1996-2005)	Highest Obs. 2 minute mph/ direction	Peak Gust mph / direction	Days 30 mph 1min.	Days 30 mph 1min.	% Days 20 mph	% Days 30 mph	% Days 30 mph	% Days 40 mph	Prevailing Wind Direction (1992-2006)
January	7.9	58/360	94/N	5	2	0	16%	6%	0	ENE
February	5.1	56/340	83/NE	5	4	0	17%	14%	0	ENE
March	6.9	46/350	82/NE	2	2	1	6.4%	6.4%	0	ENE
April	5.2	46/010	6/3N	0	0	0	0	0	0	ENE
May	5.8	30/030	52/NE	0	0	0	0	0	0	WSW
June	6.0	35/030	56/NE	1	0	0	3.3%	0	0	WSW
July	4.8	24/280	41/N	0	0	0	0	0	0	WSW
August	4.2	32/360	56/N	0	0	0	0	0	0	WSW
September	4.4	46/010	69/SW	1	0	0	3.3%	0	0	WSW
October	6.2	40/010	69/N	1	0	0	3.2%	0	0	ENE
November	6.2	53/010	77/N	4	2	1	13%	6.6%	3.2%	ENE
December	7.4	54/350	75/N	1	0	0	3.2%	0	0	ENE

<sup>1</sup>Winds in areas of Port Valdez, Valdez Narrows, and Valdez Arm are highly localized and variable.

<sup>2</sup>Winds at VMT can be higher than winds at National Weather Service (NWS) office when direction is from the north.

<sup>3</sup>The data as presented provides a reasonable basis to describe the environmental conditions in the area of concern. As with any summary data, actual conditions may be better or worse at specific locations at specific times.

### 3.4.4 Visibility and Precipitation

Darkness, fog, heavy rain, falling snow, and low clouds reduce visibility, which may affect flight and vessel operations and make it difficult to find spilled oil. These environmental conditions may vary in the Port Valdez area. Therefore, different areas may not experience the same constraints. [Table 3.4-3](#) summarizes visibility and precipitation limitations. See [Table 3.4-4](#) for annual mean sky cover and [Table 3.4-5](#) for annual precipitation data.

Flight surveillance operations limitations are based on visual flight rules for rotary and fixed-wing aircraft. They are:

- 500-foot ceiling and one-mile visibility if in sight of land, or
- 500-foot ceiling and three-mile visibility if over open water and land is not in sight.

Booming and skimming vessels require between 0.125 nautical miles (nm) (200 meters) and 0.5 nm (800 meters) of visibility, depending on temperature, sea state, wind, and precipitation. A visibility RMROL affects response vessels differently depending on whether they are already engaged in oil recovery or are seeking oil to recover. Vessel Captains set operating limits for their vessels when actively booming and skimming in oil based on safety and operating efficiency. Vessels seeking oil and requiring aircraft surveillance are subject to the aircraft minimums presented above.

On-hand response tactics generally are not impacted by visibility and precipitation conditions.

#### 3.4.4.1 Visibility Considerations

- Darkness, fog, falling snow, heavy rain, and low clouds hinder aircraft surveillance and

vessel operations.

- Response vessel operations generally remain effective in conditions that preclude aircraft operations unless the vessels cannot locate oil.
- Blowing snow can cause “white-out” conditions that make travel and work dangerous or inefficient.

Precipitation may contribute to poor visibility and create other problems. Heavy rain, snow accumulation, or freezing rain make equipment difficult to handle and may result in dangerous operating conditions. A RMROL based solely on precipitation may not be defined except in those cases where it causes poor visibility or dangerous operating conditions. The impact of precipitation may also be influenced by temperature, sea state, wind, and visibility.

#### **3.4.4.2 Precipitation Considerations**

- Fog, falling snow, heavy rain, and low clouds may hinder aircraft, vessel, and vehicle operations and surveillance.
- On-hand and response vessel operations generally remain effective in conditions that preclude aerial surveillance unless the vessel operation is not able to locate oil.
- Certain rain conditions may calm the water surface, making containment and recovery easier.
- Moderate to heavy snowfall can cover grounded oil, making detection difficult.
- In some circumstances, snow may be an effective sorbent, with dry snow usually acting as a better sorbent than wet snow.
- The potential for vessel-superstructure and equipment icing varies in the Port Valdez area and may affect a vessel’s operations, communications, and navigation equipment.
- Icing caused by freezing rain may limit the effectiveness of spill response equipment and affect personnel, vessel, and vehicle safety.

### 3.4.6 Ice and Debris

Ice can create unsafe working conditions and impact the efficiency of a mechanical response. Ice can be present as glacial ice, sea ice, shorefast ice, or superstructure icing. Ice of any type is short-lived in the Port of Valdez and typically does not last beyond one or two days. Debris occurs in the form of logs, tree limbs, sticks, and seaweeds. Debris in all ranges of size can be found in Port Valdez and Valdez Arm in varying volumes on a seasonal basis. Operational strategies should contemplate alternative tactics when ice and debris are present in volumes anticipated to impact operation.

Ice and debris considerations are:

- Glacial ice may require on-water operations to work around icebergs.
- Booms and skimmers can be affected by ice accumulation and debris. Single icebergs and large volumes of small ice pieces can impact and breach containment boom.
- Glacial ice may benefit a response by trapping and concentrating the oil.
- Large pieces of ice and debris can be moved by boats to keep them away from booms.
- Concentrations of smaller pieces of ice can sometimes be deflected away from containment boom by use of durable boom.

**Table 3.4-8. Summary of Ice and Debris Limitations**

<b>Response Method</b>	<b>Conditions that could Adversely Impact a Response and Frequency of Occurrence and Duration</b>	<b>Potential Temporary Prevention and Response Measures that could be Considered during RMROL Conditions</b>
<b>Mechanical</b>	<ul style="list-style-type: none"> <li>• Glacial ice and, in sheltered areas, sea ice and shorefast ice that persist over the entire response area for the entire time of the response.</li> <li>• Glacial ice sometimes occurs during summer and fall. In sheltered areas, sea ice and shorefast ice can occur during winter. These conditions can be expected to last from a few hours to several days, or more.</li> </ul>	<ul style="list-style-type: none"> <li>• Response organization will maximize oil recovery for the conditions by focusing resources where they can work efficiently.</li> <li>• Responding vessels mobilizing to the spill site are advised to travel in groups.</li> </ul>
<b>Dispersants/ In-Situ Burning</b>	<ul style="list-style-type: none"> <li>• Glacial ice and, in sheltered areas, sea ice and shorefast ice that persist over the entire response area for the entire time of the response, will not preclude a burning response. Ice will restrict the spread of oil.</li> <li>• Glacial ice sometimes occurs during summer and fall. In sheltered areas, sea ice and shorefast ice can occur during winter. These conditions can be expected to last from a few hours to several days or more and may vary throughout PWS. Glacial ice in the areas transited by tank vessels is of such limited extent that its effect on non-mechanical methods is considered minimal. Dispersant use in widely scattered ice (10 percent or less) is unaffected. Dispersants may not be used in sheltered bays where shorefast ice may occur.</li> </ul>	<ul style="list-style-type: none"> <li>• No alternatives available</li> </ul>



# Valdez Marine Terminal

## CP-35-2

### Volume 3



## Oil Discharge Prevention and Contingency Plan

## VMT Technical Manual



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## Oil Discharge Prevention and Contingency Plan

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**VMT-SA-1, Sensitive Area Protection Strike Team:** This tactic describes the minimum resources required for each strike team and the operational considerations for Sensitive Area Protection.

**VMT-SA-2, 3, 4, and 5 Reserved:**

**VMT-SA-6, Deployment Plan for Solomon Gulch Hatchery:** Describes the main equipment stored at this location and the general boom deployment configuration.

**VMT-SA-7, Deployment Plan for Duck Flats:** Describes the main equipment stored at this location and the general boom deployment configuration.

**VMT-SA-8, Reserved:**

**VMT-SA-9, Shoreline Protection By Exclusion Booming:** Describes the tactic and operational considerations.

**VMT-SA-10, Shoreline Protection By Deflection Booming:** Describes the tactic and operational considerations.

**VMT-SA-11, Shoreline Diversion/Entrapment:** Describes the tactic and operational considerations.

## **9.0.2 How Sensitive Area Protection Is Managed**

The decision to mobilize sensitive area protection is made by the Unified Command in conjunction with the Planning Section Chief. The Environmental Unit Leader, using tracking and surveillance tactics (Section 7), local knowledge, or other sources, identifies and prioritizes the areas to protect. The management of these deployments is under the control of the Operations Section. Sensitive area protection will be directed by a Strike Team Leader who executes specific strategies and tactics to carry out deployments. The Strike Team Leader will report to the Nearshore Task Force Leader.

Appendix B contains action checklists for Unit Leaders, Branch Directors, Section Chiefs, Incident Commander and Command Staff.

### **9.0.2.1 Solomon Gulch Hatchery and Valdez Duck Flats Sensitive Area Protection Mobilization Decision Matrix**

To assist in determining the possible threat to these sensitive areas, a decision matrix was developed. This matrix provides assessment points to be used by the Initial Response Incident Commander (IRIC) or the Incident Command (IC) within the first one or two hours of an incident. Information from on-scene observation reports is assigned a numerical value associated with the threat/risk possibilities. If the cumulative total value reaches or exceeds 25, then immediate and rapid deployment of protective oil spill boom is expected to occur. The matrix is intended for use early enough in the process that the Unified Command may not yet be established. The IRIC may initiate the matrix results.

This matrix was intended to incorporate the most pertinent factors that might occur in an actual spill incident, however, there may be extraordinary conditions which must be taken into consideration. It is the responsibility of the Unified Command/Incident Commander or, if early enough in the response, the IRIC to gather incident specific information so incident objectives and prioritization of tasks can be made that enable responders to execute spill containment, spill recovery/mitigation, and sensitive area protection actions simultaneously.

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## Oil Discharge Prevention and Contingency Plan

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**Table 12-16. Support Vessels**

Type	No.	Crew	Length (FT)	Location	Ownership
Line Boat	2	2	44	VMT	Crowley Marine Services
Support Vessels	6	2	18 to 27	Prince William Sound	APSC
Fishing Vessel (F/V)	Refer to VMT-LP-7				

SERVICE - Open water: Wave height less than 6 foot.

Note: During response operations, APSC support vessels are limited by personnel safety and the limitations of the equipment being deployed.

**Table 12-17. Oil Recovery Equipment - Skimming Vessels Limitations and Operational Characteristics**

No. / Vessel / Length / Speed and Draft	Nameplate Recovery (BBL/HR)	De-Rated Recovery (BBL/HR)	Storage (BBL)
<p><b>1 - Dynamic Inclined Plane Skimmer (JBF 6001): Valdez Star:</b>                      Length (FT): 123                      Speed (KT): 6 to 12                      Draft (FT): 10</p> <p><b>Additional Comments:</b></p> <ul style="list-style-type: none"> <li>Service - Open water skimmer:                             <ul style="list-style-type: none"> <li>Wave height less than 6 foot</li> <li>Winds 15 - 25 knots</li> </ul> </li> <li>Maneuverability is limited while skimming operations are underway</li> <li>Skimming speed around 3 knots, without gated "U" boom</li> <li>Speed towing a barge is 6 knots</li> <li>Safety of skimming operations is reduced when seas exceed 3 ft.</li> <li>Can transfer oil to external storage while skimming</li> </ul> <p><b>Location / Ownership:</b> Port Valdez / PWS Corp.</p>	2,000	700	1,310
<p><b>2 - Dynamic Inclined Plane Skimmers (JBF 3003): Chenega Bay and Tatitlek Star</b>                      Length (FT): 38.5                      Speed (KT): 5                      Draft (FT): 5 ft 7 in.</p> <p><b>Additional Comments:</b></p> <ul style="list-style-type: none"> <li>Service - Protected water skimmer:                             <ul style="list-style-type: none"> <li>Wave height less than 3 foot</li> <li>Winds 15 - 25 knots</li> </ul> </li> <li>Shallow-draft skimmer designed to operate in harbors and nearshore to recover surface oil</li> <li>Self propelled with self-contained hydraulic system</li> </ul> <p><b>Location / Ownership:</b> Port Valdez / PWS Corp.</p>	571	114	95

**Table 12-17. Oil Recovery Equipment - Skimming Vessels Limitations and Operational Characteristics**

No. / Vessel / Length / Speed and Draft	Nameplate Recovery (BBL/HR)	De-Rated Recovery (BBL/HR)	Storage (BBL)
<p><b>1 Belt Skimmer, Marco VII: Fort Liscum</b>                      Length (FT): 48                      Speed (KT): 5                      Draft (FT): 6  <b>Additional Comments:</b></p> <ul style="list-style-type: none"> <li>• Service - Open water skimmer:                             <ul style="list-style-type: none"> <li>• Wave height less than 6 foot</li> <li>• Winds 15 -25 knots</li> </ul> </li> <li>• Shallow-draft skimmer designed to operate in harbors and nearshore to recover surface oil</li> <li>• Self-propelled with 360 degree rotatable propulsion unit.</li> <li>• 3-ft wide filter belt with 6-inch offloading pump</li> </ul> <p><b>Location / Ownership:</b> Port Valdez / PWS Corp.</p>	1,281	256	80

**Table 12-18. Oil Recovery Equipment - Weir Skimmers Limitations and Operational Characteristics**

No. / Skimmer / Weight and Draft	Nameplate Recovery (BBL/HR)	De-Rated Recovery (BBL/HR)	Auxiliary Equipment
<p><b>4 - Skimmer: TransRec 350</b>                      Weight (LBS): 30,800  <b>Additional Comments:</b></p> <ul style="list-style-type: none"> <li>• Service - Open water skimmer:                             <ul style="list-style-type: none"> <li>• Wave height less than 6 foot</li> </ul> </li> <li>• Requires large operating platform</li> <li>• Can be deployed or recovered by one or two personnel</li> <li>• Designed for heavy concentrations of oil</li> </ul> <p><b>Location / Ownership:</b> Skimming-Storage Barges / APSC</p>	2,187	497	<ul style="list-style-type: none"> <li>• Hydraulic Power Pack</li> <li>• Generator</li> <li>• Hoses</li> </ul>
<p><b>1 - Pre-set Weir Skimmer: GrahamRec</b>                      Weight (LBS): 11,800  <b>Additional Comments:</b></p> <ul style="list-style-type: none"> <li>• Service - Open water skimmer:                             <ul style="list-style-type: none"> <li>• Wave height less than 6 foot</li> </ul> </li> <li>• Requires large operating platform</li> <li>• Designed for heavy concentrations of oil</li> </ul> <p><b>Location / Ownership:</b> Skimming-Storage Barges / APSC</p>	3,774	1100 (per hour for 12 hours)	<ul style="list-style-type: none"> <li>• Hydraulic Power Pack</li> <li>• Hose Reel</li> <li>• Hydraulic and Discharge Hoses</li> </ul>
<p><b>1- Self-Adjusting Skimmer: DESMI Mini-Max</b>                      Weight (LBS): 48                      Draft (FT): 1  <b>Additional Comments:</b></p> <ul style="list-style-type: none"> <li>• Service - Calm water skimmer:                             <ul style="list-style-type: none"> <li>• Wave height less than 1 foot</li> </ul> </li> <li>• Ideal for light and medium-viscosity oil</li> <li>• Effective in shallow water environments</li> <li>• Can be deployed from most fishing vessels</li> </ul> <p><b>Location / Ownership:</b> Valdez Area / APSC</p>	220	44	<ul style="list-style-type: none"> <li>• Suction/ Discharge Hose</li> <li>• Suction pump</li> </ul>

**Table 12-18. Oil Recovery Equipment - Weir Skimmers Limitations and Operational Characteristics (Continued)**

No. / Skimmer / Weight and Draft	Nameplate Recovery (BBL/HR)	De-Rated Recovery (BBL/HR)	Auxiliary Equipment
<b>1- Self Adjusting Skimmer: DESMI Terminator</b> Weight (LBS): 330 Draft: (FT): 2.3 <b>Additional Comments:</b> <ul style="list-style-type: none"> <li>Service - Open water skimmer:                             <ul style="list-style-type: none"> <li>Wave height less than 6 foot</li> </ul> </li> <li>Ideal for light and medium-viscosity oil</li> <li>Effective in shallow water environments</li> <li>Can be deployed from most fishing vessels</li> </ul> <b>Location / Ownership:</b> VRC / APSC	628.6	126	<ul style="list-style-type: none"> <li>Hydraulic Power Pack</li> <li>Hydraulic and Discharge Hoses</li> </ul>
<b>5 - Self Adjusting Skimmer: DESMI Termite</b> Weight (LBS): 210 Draft: (FT): 1.2 <b>Additional Comments:</b> <ul style="list-style-type: none"> <li>Service - Calm water skimmer:                             <ul style="list-style-type: none"> <li>Wave height less than 1 foot</li> </ul> </li> <li>Ideal for light and medium-viscosity oil</li> <li>Effective in shallow water environments</li> <li>Can be deployed from most fishing vessels</li> </ul> <b>Location / Ownership:</b> VMT, VRC / APSC	188.6	38	<ul style="list-style-type: none"> <li>Hydraulic Power Pack</li> <li>Hydraulic and Discharge Hoses</li> </ul>
<b>1- Self-Contained Skimmer: Manta Ray</b> Weight (LBS): 6 Draft: (FT): 0 <b>Additional Comments:</b> <ul style="list-style-type: none"> <li>Service - Calm water skimmer:                             <ul style="list-style-type: none"> <li>Wave height less than 1 foot</li> </ul> </li> <li>Thin profile permits use in terrestrial environments</li> </ul> <b>Location / Ownership:</b> VMT, VRC / APSC	171	34	<ul style="list-style-type: none"> <li>Suction Pump</li> </ul>

**Table 12-19. Oil Recovery Equipment - Oleophilic Skimmers Limitations and Operational Characteristics**

No. / Skimmer / Weight and Draft	Nameplate Recovery (BBL/HR)	De-Rated Recovery (BBL/HR)	Auxiliary Equipment
<b>6- Disc Skimmer: Komara Mini</b> Weight (LBS): 115 Draft: (IN): 0.8 <b>Additional Comments:</b> <ul style="list-style-type: none"> <li>Service - Calm water skimmer:                             <ul style="list-style-type: none"> <li>Wave height less than 1 foot</li> </ul> </li> <li>Can be deployed from most fishing vessels</li> </ul> <b>Location / Ownership:</b> VMT/ APSC	70 (Crude Oil) 140 (Diesel)	14 (Crude Oil) 28 (Diesel)	<ul style="list-style-type: none"> <li>Hydraulic Power Pack</li> <li>Pump</li> </ul>

\* The skimmer listed in [Table 12-29](#), Shoreline Unit Contents is included in these totals.

**Table 12-19. Oil Recovery Equipment - Oleophilic Skimmers Limitations and Operational Characteristics (Continued)**

No. / Skimmer / Weight and Draft	Nameplate Recovery (BBL/HR)	De-Rated Recovery (BBL/HR)	Auxiliary Equipment
<b>1- Brush Skimmer: Lori Brush System *</b> Weight (LBS): 4,400 Draft: (IN): 12 <b>Additional Comments:</b> <ul style="list-style-type: none"> <li>Service - Protected water skimmer:                             <ul style="list-style-type: none"> <li>Wave height less than 3 foot</li> </ul> </li> <li>Designed for shoreline and nearshore environments</li> <li>System (skimmer, pontoon boat, power pack, etc.) is packed in standardized containers to facilitate easy transport</li> <li>Fine bristles used for light oil, coarse bristles used for heavy oil</li> <li>These skimmers are very heavy and will require larger vessels with lifting capabilities</li> <li>Can be deployed from most fishing vessels</li> </ul> <b>Location / Ownership:</b> VRC / APSC	120	24	<ul style="list-style-type: none"> <li>Hydraulic Power Pack</li> <li>Pontoon Boat</li> <li>Collection Boom</li> </ul>
<b>1- Desmi Helix 160 Skimmer</b> Weight (LBS): 396 Draft: (IN): 16 <b>Additional Comments:</b> <ul style="list-style-type: none"> <li>Service - Calm water skimmer:                             <ul style="list-style-type: none"> <li>Wave height less than 1 foot</li> </ul> </li> <li>Can be deployed from most fishing vessels</li> </ul> <b>Location / Ownership:</b> Prince William Sound / APSC	132 gpm pump capacity	26 gpm	<ul style="list-style-type: none"> <li>Hydraulic Power Pack</li> <li>Hydraulic and Discharge Hoses</li> </ul>

\* The skimmer listed in Table 12-29, Shoreline Unit Contents is included in these totals.

**Table 12-20. Oil Recovery Equipment - Vacuum Systems**

No. / Vacuum System/ Weight and Dimensions	Nameplate Recovery (BBL/HR)	Auxiliary Equipment
<b>1- Shorevac *</b> Weight (LBS): 902 Dimensions: 69 in. x 47 in. x 48 in. <b>Operational Characteristics and Limitations:</b> <ul style="list-style-type: none"> <li>Hand lance can be fitted with different nozzles as dictated by the local environment</li> </ul> <b>Location / Ownership:</b> VRC / APSC	Up to 1,195	<ul style="list-style-type: none"> <li>Hand Lance</li> <li>Vacuum Head</li> <li>Storage Drums</li> <li>Trailer</li> <li>Suction and Discharge Hoses</li> </ul>
<b>1- Ro-Vac</b> Weight (LBS): 1,540 Dimensions: 78 in. x 58 in. x 74 in. <b>Operational Characteristics and Limitations:</b>	Up to 2,000	<ul style="list-style-type: none"> <li>Hand Lances</li> <li>Vacuum Head</li> <li>Storage Drums</li> <li>Suction and Discharge Hoses</li> </ul>

\* The vacuum system listed in Table 12-29, Shoreline Unit Contents is included in these totals.

**Table 12-21. Boom Inventory and Operating Limits**

Boom Type*/**	Quantity (FT)	Tactically Assigned (FT)	Operating Limits* (Wave Height in FT)
Open Water	10,000	2,500	0-6



**Table 12-21. Boom Inventory and Operating Limits**

Boom Type**/**	Quantity (FT)	Tactically Assigned (FT)	Operating Limits* (Wave Height in FT)
Calm Water	36,650	8,300	0-3
Fire Boom	3,600	2,500	0-3
Snare Boom	9,000	None	N/A (placed on shore)
Sorbent (Sausage) Boom	4,000	None	Calm-water only
Intertidal Boom	4,150	All***	N/A (placed along shore)
Current Buster Systems	4 Units	None	0-6

\*Boom types and operating limits based on ASTM information and the World Catalog of Oil Spill Response Products.

\*\* The Boom listed in table Table 12-29, Shoreline Unit Contents is included in these totals.

\*\*\* 2500 ft of the intertidal boom may be substituted with calm water boom.

**Table 12-22. Boom Anchor Systems**

Anchor Type (LB) *	Quantity
40	30
60	2
100	5
200	5

\*The anchors listed in Table 12-29, Shoreline Unit Contents is included in these totals.

**Table 12-23. Pumps - Nearshore / Shoreline**

Pump Type*	No.	Weight (LB)	Capacity (BBL/HR)	Location	Ownership
Centrifugal 4"	4	3,200	1,107 at 85 psi	VRC	APSC
Centrifugal 6"	2	3,200	2,000 at 85 psi	VRC	APSC

\*The pumps listed in Table 12-29, Shoreline Unit Contents is included in these totals

**Table 12-24. Pumps - Other**

Pump Type*	No.	Weight (LB)	Capacity (BBL/HR)	Location	Ownership
Centrifugal 2"	4	150	17	VRC	APSC
DESMI DOP 250	5*	154	625	VMT, VRC , Skimming/Storage Barges	APSC
Diaphragm Pump 4"	1	570	185 at 125 psi	VRC	APSC
Diaphragm Pump 4"	1	235	371 at 75 psi	VRC	APSC
TK-6	1	187	3,774	Skimming/Storage Barges	APSC

\*Some may be part of skimming systems or off loading systems.

**From:** [Scott, Jason R LT](#)  
**To:** [Tuttle, Amanda](#); [Wood, Sue E](#)  
**Cc:** [Alvarez, Walner W LCDR](#); [Lally, Joseph CDR](#); [Smilie, Jason A LCDR](#)  
**Subject:** Scenario 4 comments  
**Date:** Wednesday, February 15, 2017 9:07:29 AM

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Amanda, Sue,

Here are the comments from the Coast Guard on the Scenario 4 re-write. We have consistently reviewed and largely agreed with your red line changes, volume re-calculation, trajectories, and equipment selection as a baseline for the hypothetical response to the required WCD Scenario. At this point we only have issues with the Sensitive Area Protection Matrix. We are a little confused on the thought process as it went away completely to being back as a job aid, and then quickly amended once again. Bottom Line, we would like to see it in the plan as a tool for the IRIC and initial response team.

1. The first amended matrix you handed out at the last scenario 4 meeting where Mike Day explained it seemed reasonable with a few changes.
2. A score of 12 should be the trigger for deploying the Valdez Duck Flats and the Solomon Gulch Hatchery. The 18 score is inappropriate based on the scenarios that you all presented as examples.
3. We feel there should be an added metric for spills over 10,000 bbls for a score of 4 under the MAGNITUDE OF DISCHARGE section. Even considering the direction of tidal currents and winds, a spill of this magnitude should be treated differently than a 100 bbl spill.
4. Consider adding a metric for seasonality. It is obvious that in Winter, there are no salmon, net pens, and significantly less wildlife in the Duck Flats. With a metric for seasonality, the tool can be utilized for all of the scenarios during all parts of the year which it sounds like will be a large concern during the scenario 5 re-write.

v/r

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## The Challenge of Measuring Water Currents

The first indication that current measurements are a challenge to obtain is the fact that to deploy and maintain a current meter is anywhere from four to ten times as expensive to do as similar activities to measure water levels. This has important implications for the quality and breadth of current observations and tidal current predictions available today to the Nation's mariners.

This increased expense can be readily appreciated by noting a few sharp contrasts between the behavior of water levels and currents. Water level is relatively the same over a wide area; therefore, water level measurements can be made from the relative convenience of dry land along a nearby shoreline. By contrast, current speed and direction can be very localized, varying greatly over short distances as bottom contours and shoreline configuration alter both the current's speed and direction of flow as well as spinning off eddies. Given these circumstances, if you wish to know the current at a particular location in the bay or channel you must leave the comfort of the shore and accept the expense and endure the effort to place your instrument exactly "there" or perform a parallel measurement to estimate being exactly "there."

Getting "there" illuminates further challenges. One can load the workings of a water level station (tide house, water level sensor, electronics, etcetera, all valued at about \$15,000.) into a large truck and drive to your preferred shoreline location for a few hundred dollars per day. Installation is done mostly from the safety and working convenience of dry land. By contrast, the equipment and deployment of current measuring devices is more expensive and involved. First, the equipment to measure currents (current sensor, electronics and various bottom anchors, cables and floats, etc.) is valued at about \$40,000. Next, your truck will only get you to the ship's dock. You and your equipment need to be out on and in the water and the boat to do that will typically cost several thousand dollars per day.

Staying "there" long enough to obtain a meaningful observation reveals additional challenges. Most of the components of a water level measuring system (tide house, electronics, sensor) are on dry land and thus subject to slow corrosion and weathering. Routine maintenance on such an installation typically occurs once each year. By contrast, all of a current measuring system is typically in salt water and thus subject to both rapid corrosion and fouling by marine growth. Such an installation must routinely be visited at least four times per year for cleaning and inspection. And remember, each visit requires a boat and divers to perform even the simplest inspection.

Some of the foregoing explains why the current observations which we do have are of shorter duration, at fewer locations, and less up-to-date than we have for water levels. In fact, continuous current observations only began a few years ago. Previously, current observations were typically made for only a few days, at most a month, at any location. By contrast, continuous water level observation at many locations go back to the mid 1800s. In addition, most of the current observations were made so long ago that the technology for measurement, though sophisticated at the time, is quite primitive by today's standards.

Moreover, as stated above, currents are strongly influenced by local conditions and can change in dramatic and unknown ways when those local circumstances change. In fact, such changes occur all the time. For example, shipping channels are dredged deeper and wider, or natural processes move sand bars or reshape the bottom. These changes will alter the current strength and direction in unknown ways and tidal current predictions and forecasts based upon older observations are at least questionable and may no longer be valid. The only way to know for sure is to reoccupy the site and make new current observations.

As a result of these challenges, current observations are important for shipping, commercial fishing, recreational boating and the safety of life, property and natural habitats both on the water and on shore. A knowledge of predicted, real-time and short-term forecasted currents is critical to safely docking and undocking ships, maneuvering them in confined waterways (riskyma2.html) and making safe passage through our coastal waterways. With this knowledge commerce and people arrive on schedule. Lack of the knowledge can have serious consequences (/images/tankspil.gif).

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Revised: 10/15/2013

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## FINDINGS DOCUMENT

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protect those areas before oil reaches them according to the predicted oil trajectories for an oil discharge of the volumes established under 18 AAC 75.430 - 18 AAC 75.442; areas identified in the plan must include areas added by the Department as a condition of plan approval."

### RESPONSE TO COMMENTS

RCAC requested specific information about resources that would be used to simultaneously protect the two environmentally sensitive areas and the leading edge of a large oil spill, but accepts the proposed work group to address these issues, and expressed appreciation for inclusion in the working group.

RCAC also requested that the methodologies developed in this process be available for public review, which ADEC will require. (See Condition No. 6).

Mr. Lakosh expressed concern about Alyeska's ability to respond to a nearshore sensitive area under low wind conditions, due to the potential for hazardous vapors. Please see Issue #3 for a complete discussion about vapor hazards and oil spill response actions.

### BASIS FOR DECISION

The plan holder must be capable of protecting sensitive areas in Port Valdez while simultaneously containing and controlling the further spread of oil in a catastrophic incident. The current plan does not clearly demonstrate this capability and requires further analysis. At the Department's request, Alyeska conducted a demonstration exercise on September 24<sup>th</sup>, 1999 where exclusion booming was deployed at three environmentally sensitive areas near the Terminal. Although many aspects of this demonstration were successful, the Department is concerned that there may not be enough resources available to protect the Valdez Duck Flats and the Solomon Gulch Hatchery in the early hours of an incident when many competing response actions must occur.

The Duck Flats and the Solomon Gulch Hatchery are prioritized for protection in the plan through the use of the Sensitive Area Protection Mobilization Decision Matrix. This matrix was added to the current plan as a result of the 1997 plan review and approval process. The matrix provides criteria and assessment points for use by the initial incident commander within the first one or two hours of a spill. Based upon information received about the spill, immediate and rapid deployment of protective oil spill boom is expected for the Duck Flats and the Solomon Gulch Hatchery. Currently, personnel from SERVS are responsible to conduct this deployment. During the RPS Scenario Drill held on September 1<sup>st</sup> and 2<sup>nd</sup>, the protection of the Solomon Gulch Hatchery and the Duck Flats were given priority according to the criteria of the matrix. However, actions to contain and control free oil were delayed because some of the same limited resources that were needed to protect the Solomon Gulch Hatchery were also needed to protect the Duck Flats. The Response Planning Scenario currently in the plan shows resources being used for deployment at the first and the same resources going to the Duck Flats three hours later.

SOA006149

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Alaska Department of Environmental Conservation  
Division of Spill Prevention and Response  
Industry Preparedness and Pipeline Program

**VALDEZ MARINE TERMINAL OIL DISCHARGE PREVENTION AND  
CONTINGENCY PLAN**

**Findings Document  
and  
Response to Comments**

12/20/96

SOA006200

## FINDINGS DOCUMENT

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each site. The commentor recommended that specific deployment plans, flexible enough to allow for specific conditions occurring during a spill, be developed and field tested for all of the environmentally sensitive sites identified in Port Valdez.

The Department has considered this comment and agrees that it would be worthwhile for the plan holder to devise site specific and season specific deployment strategies (not a full protection plan with pre-deployed equipment) for the priority areas identified in the contingency plan. Since this has already been completed for the Hatchery and the Duck Flats, ten sites remain to be considered. The Department believes it would be reasonable, through tabletop drills and actual exercises to complete this task over the term of the plan approval. As a condition of plan approval, the Department will require the plan holder to provide a schedule for developing the deployment strategies for the remaining 10 areas. The regulatory authority relevant to this requirement are 18 AAC 75.425(e)(1)(F)(I), procedures to stop the discharge at its source and prevent its further spread and 18 AAC 75.425(e)(3)(J), protection of environmentally sensitive areas and areas of public concern.

2. Valdez Duck Flats and Solomon Gulch Hatchery: ADF&G's comment was that agencies and the plan holder jointly define the term "automatic" including the need to predesignate response personnel and the level of spill which would trigger a response.

This issue was identified during the Eastern Lion Spill, where oil sheens reached both the Hatchery and the Duck Flats. ADEC staff recall that there had been an understanding following the Eastern Lion spill that SERVS would maintain an identified crew ready to deploy protection at Solomon Gulch, with dedicated equipment stored on location. Sufficient personnel were to be maintained to perform this function without compromising VMT response efforts. This seemed to be an issue of concern to the Planning Section during the drill. The Department concludes that this issue must be resolved as a condition of plan approval.

3. ATOM Model and Oil Spill Trajectories: Both citizen and agency reviewers have commented on the lack of accuracy of the ATOM model in the near shore environment of Port Valdez. In addition to agency comments, citizen reviewers have noted that "the computer model trajectory example for Port Valdez is incomplete and does not look realistic, based upon local knowledge". Both commentors recommend that the model be further verified and tested.

The Department concurs with these comments and finds that the ATOM model needs to be improved if it is to be a reliable tool to forecast spill trajectories in the area of the Terminal. Until such time that this is accomplished, the Department will require the plan holder to more fully describe the use of other more realistic "procedures and methods for real-time surveillance and tracking of the discharged oil on open water and forecasting of its expected points of

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shoreline contact" (18 AAC 75.425 (e)(1)(F)(iv). The ATOM model may continue to be appropriate as a long range forecast tool for large scale oil transport even though its limitations in the nearshore environment, especially nearby the Terminal are acknowledged.

It should be noted that by the next plan renewal, the Department will have amended the Oil and Hazardous Substances Pollution Control Regulations. It is anticipated that the new section on Best Available Technology (BAT) reviews will require that trajectory analyses and forecasts be subject to BAT review. Therefore, the next time the plan is renewed, the Department will evaluate the trajectory model for best available technology based on several criteria, as set in the soon-to-be adopted regulations, including increased environmental benefits and whether the technology is compatible with existing operations.

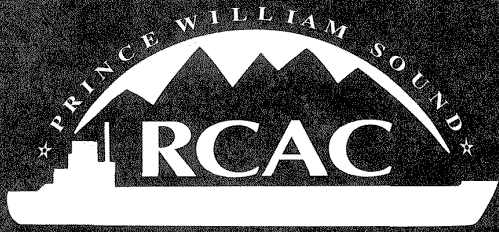
#### 4. May 15, 1996 VMT Drill Lessons Learned:

A commentor stated that the Lessons Learned from the May 15 drill should be completed prior to Plan approval. The Department has considered this comment. Summary comments/assessments and lessons learned have been received from all participants, including Alyeska, and that the primary lessons learned directly relevant to the plan have been addressed in the three issues as described above. Other elements of the lessons learned, such as the issue of most efficient equipment use and equipment breakdowns are considered to be more appropriately dealt with as inspection and compliance matters.

In a separate transmittal to the plan holder, the Department is requiring some updates to the C-plan based on experiences from this drill, such as to modify the response section of the Plan to include the general procedures that will determine when the Valdez Emergency Operations Center is to be the command center for a Terminal incident.

#### **ISSUE #14 TRANSFERS BETWEEN PLAN HOLDERS**

A comment was received which raised the concern that both the shippers, through the Prince William Sound Tanker C-Plans and Alyeska, through the VMT C-Plan, rely on SERVS' equipment inventory to meet their response planning standard. This comment was given consideration in that State regulations specifically address transfers of equipment, materials or personnel between plan holders. In this case, SERVS has the role of the plan holder for the VMT Plan and has the role of an oil spill response action contractor for the Tanker Plans. The regulations under 18 AAC 75.470 (b)(1)(D) give the Department the discretion to approve a transfer between plan holders after consideration of a number of factors, one of which may



Regional Citizens' Advisory Council

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# The Observer

VOLUME 4, No. 3/SUMMER 1994

## Special Report: Follow up on Eastern Lion

### • What happened

On May 21 and 22, approximately 8,400 gallons of North Slope crude spilled into Port Valdez from the Eastern Lion. The tanker was carrying BP oil under charter by Amerada Hess.

### • How it happened

The ship's operator has concluded that the leak was caused by a small hole in the bottom of No. 1 Port Wing Cargo Tank.

### • Human error to blame?

The oil spill might have been prevented, or at least mitigated, if the crew had taken steps to confirm the source of a water leak discovered five days before. When the oil spill occurred, no one on the crew volunteered information about the water leak.

### • Environmental damage

Oil got into the Valdez Duck Flats and the Solomon Gulch Fish Hatchery, but it is not known whether and how much damage was done.

### • Response efforts

Alyeska's Ship Escort/Response Vessel System (SERVS) responded to the oil spill. BP took over the clean up three days later. Most of the oil was contained and recovered, but perhaps as much as 10% escaped.

## Will the real owner of the Eastern Lion please stand up

This is a test. Pick the correct statement:  
1. The Eastern Lion is owned by Amerada Hess and Maritime Overseas Corporation  
2. The Eastern Lion is owned by Overseas Shipholding  
3. The Eastern Lion is owned by Third United Shipping  
4. The Eastern Lion is owned by Inter-ocean Management Corporation

Each of these answers came from a reputable source, but the owner of record is a Liberian company, Third United Shipping.

Third United Shipping is a joint venture of Amerada Hess Oil Co. and Overseas Shipholding Group. The latter is the parent company of Maritime Overseas Corp., which operates the Eastern Lion. That may explain why press accounts incorrectly said the tanker is owned 50-50 by Amerada Hess Oil Co. and Maritime Overseas Corporation.

Version #4, citing Inter-ocean Management Corp. was simply in error, although it was repeated several times to RCAC, both verbally and in writing.

Press accounts said the Eastern Lion was a BP charter but that is not the case, either.

The tanker was operated by Maritime Overseas Corp. but actually chartered by Amerada Hess. It picked up cargo owned by BP under an arrangement called a "contract of affreightment." The oil was headed to an Amerada Hess refinery in St. Croix. At its destination the cargo was to be handed over to Amerada Hess.

The lineup of companies involved in some way with the Eastern Lion looks like this:

- Third United Shipping: Vessel owner, a joint venture of Amerada Hess and Overseas Shipholding Group. Third United Shipping owns just the one tanker.

- Maritime Overseas Corporation: Vessel operator, a subsidiary of Overseas Shipholding Group.

- Amerada Hess: Vessel charterer and 50 percent partner in the joint venture company, Third United Shipping, which owns the tanker. Amerada Hess is listed as the guarantor on the tanker's oil spill contingency plan filed with the State of Alaska.

- Overseas Shipholding Group: 50 percent partner in the joint venture company, Third

United Shipping, which owns the tanker.

- BP: Owned the cargo and is designated by contract with the vessel operator to respond if the tanker has an oil spill.

With so many players, it also gets confusing attempting to determine who is responsible for what. Typically, the vessel owner (Third United Shipping) and/or operator (Maritime Overseas Corp.) would be held responsible for the illegal discharge of oil. The owner of the cargo (BP) and the operator (Maritime Overseas Corp.) would be held responsible for costs incurred by the state and any natural resource damages.

On the other hand, the state could go after the guarantor for costs and penalties related to the spill. Amerada Hess is listed as the guarantor on the tanker's oil spill contingency plan. Alyeska and BP, as the entities charged with responding to the oil spill, would be held responsible for the adequacy of the clean up.

Enforcement of penalties against Third United Shipping could be difficult because it is not a U.S. company.

## Skipper fired; answers not satisfactory

The Italian captain of the Eastern Lion who was on duty in the days leading up to the May 21 oil spill has been fired by Maritime Overseas Corporation, according to MOC Executive Vice President George Blake.

At a spill debriefing June 28 in Valdez, Blake said he had just returned from Italy, where he interviewed the captain and senior crew members about a water leak detected five days before the oil spill. The crew apparently assumed the excess water in the wing tank came from a stripping valve and did not take additional steps to confirm their assumption. MOC, which operates the vessel, subsequently found a one-inch hole obstructed from view. That hole was the source of both the water leak and the oil spill. When oil began leaking, the crew did not volunteer information about the water leak.

"He's no longer with us," Blake said of the captain. "He did not give satisfactory answers to our questions."

MOC has examined all its ships that ply the TAPS trade and temporary repairs have been made to pits on two of them, Blake said. MOC has also instructed its crews to verify any water leak and to inform MOC of leaks or other potential problems in the future. Because of the location of the hole in the tank, verifying the source of the water leak would have meant emptying and cleaning the tank and removing a bellmouth.

BP officials said they are satisfied with steps taken by MOC and Amerada Hess, which charters the vessel and co-owns it under a joint venture with MOC's parent

*"This spill was completely preventable. It's unacceptable that the crew didn't divulge information. It hampered the response and put divers at risk."*

— Cmdr. Greg Jones, USCG

The crew's failure to volunteer information about the water leak provoked sharp responses from the Coast Guard and RCAC.

In a June 15 letter to Blake, RCAC said the crew's "failure to divulge essential information when response crews were struggling to locate the spill is totally reprehensible. Not only did they exacerbate the impact of the spill on the pristine waters of Port Valdez, they placed response personnel at grave risk by forcing them to search for the source."

Coast Guard Cmdr. Greg Jones echoed that theme at the June 28 debriefing. "This spill was completely preventable," he said. "It's unacceptable that the crew didn't divulge information. It hampered the response and put divers at risk. If we had known about the leak, we might have just loaded the tanker partially and avoided the spill altogether."

However, RCAC and the Coast Guard both praised MOC for coming forward with the information so quickly once it learned of the water leak and the crew's inaction.

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# Follow up

## State, Coast Guard considering spill penalties

The discovery that the crew of the Eastern Lion withheld information related to the cause of the May 21 oil spill has generated investigations which could result in criminal prosecution and heavy fines.

The Alaska Department of Environmental Conservation (ADEC) has asked the Office of Special Prosecutions to consider criminal charges, according to ADEC Regional Administrator Tom Chapple. The Coast Guard is investigating whether violations, in addition to the discharge of oil, were committed by the tanker crew or the company.

Five days before the ship arrived in Valdez, water leaked through a hole in the bottom of the No. 1 port wing cargo tank, according to Maritime Overseas Corp., operator of the Eastern Lion. The crew assumed the leak was coming from a stripping valve, but did not attempt to verify that assumption and did not inform Maritime Overseas Corp. Nor did the crew volunteer any information when the oil spill was discovered. Maritime Overseas Corp.

*“It’s fair to say that when you have an indication of a preventable incident, it’s not going to be a minor penalty and I think the company is aware of that.”*

— Cdr. Bill Hutmacher, USCG

learned about the water leak in the course of its own investigation and brought it to the attention of the Coast Guard and RCAC on June 8.

Criminal penalties could apply if the spill resulted from criminal negligence, but it

would likely be a criminal misdemeanor – as opposed to a felony – because the spill was less than 10,000 barrels. The law defines criminal negligence as failing to perceive a substantial and unjustifiable risk. The risk must be of a such a nature and degree that the failure to perceive it constitutes a gross deviation from the standard of care that a reasonable person would observe in the situation.

State civil penalties will be decided by the Attorney General’s Office, based on several factors such as costs incurred by the state and natural resource damages, according to Assistant Attorney General Breck Tostevin.

Tostevin said it had not been decided who would be held responsible, but a ship’s operator typically would be held liable for discharging, or causing a discharge of oil. Liability for the state’s costs and natural resource damages would fall to the operator and the owner of the oil, he said.

The Eastern Lion is owned by a Liberian company, Third United Shipping, and time-chartered to Amerada Hess. The cargo was owned by BP and bound for an Amerada Hess refinery in St. Croix.

The U.S. Coast Guard is taking a two-pronged approach to its investigation. Cmdr. Bill Hutmacher said the investigation of the spill and ensuing response would be fairly straightforward. Based on that investigation, his office in Valdez will recommend a civil penalty against Maritime Overseas Corp., as the ship operator.

“Separately, we’re also looking into whether there were other violations that led to the spill – actions by the crew or the company itself,” Hutmacher said. “It appears to have been preventable, if they had verified what the cause of the water leak was. It’s fair to say that when you have an indication of a preventable incident, it’s not going to be a minor penalty and I think the company is aware of that.”

The Eastern Lion spilled approximately 8,000 gallons of North Slope crude into Port Valdez. All but about 800 gallons was contained and recovered.

“I think this will be a big reminder to any tanker operator how important it is to verify what you think a problem is. The worst thing you can do is make an assumption of the cause,” Hutmacher said.

Disciplinary actions available to the Coast Guard are limited because the Eastern Lion is a foreign-flag ship and its crew is not licensed in the U.S.

“If it had been a U.S. flag vessel and we determined negligence or misconduct, then we could consider charging the individuals, but since it’s a foreign license, the only thing we can do is forward the information to the flag state,” Hutmacher said.

Hutmacher said the results of the Coast Guard investigation will be forwarded to the Department of Maritime Affairs, Republic of Liberia, and to the Italian government. The ship carries a Liberian flag and the crew have dual licenses, from Liberia and Italy.

## Alyeska's SERVS: Lessons learned from the Eastern Lion

by James E. McHale, Manager  
Ship Escort/Response Vessel System  
(SERVS)  
Alyeska Pipeline Service Company

When oil was reported coming from the Eastern Lion at 9 p.m. Saturday, May 21, Alyeska’s Ship Escort Response Vessel System (SERVS), with notification to the Unified Command, was on the scene within 15 minutes with a self-propelled skimmer, the Valdez Star. Crews worked through the night as the response ramped up and the size and cause of the spill were assessed.

During the height of the response on Sunday, more than 45 vessels, 14 skimmers and 300 personnel recovered approximately 1,200 barrels of oily liquids from the 200-barrel spill. Some 14,000 feet of boom was deployed, including deflection boom at Solomon Gulch Hatchery and the Valdez Tidal Flats.

By Tuesday, May 24, the Unified Command reported only minor sheens remained in Port Valdez, near the Eastern Lion at Berth 5. Response efforts then focused on cleaning the vessel and the berth and preparing the tanker for its departure on Friday, May 27.

Alyeska’s main objectives for the response were realized, with safety being the number one priority.

- Leakage was stopped by transferring oil within the Eastern Lion.
- Minimal impacts to shoreline or wildlife occurred.
- Response equipment was deployed quickly.
- Personnel performed their duties professionally.
- The transition with BP was smooth, and

caused no operational interruption.

Alyeska has received praise and constructive criticism for its response. We believe there is always room for improvement and this response, although effective, taught us some valuable lessons:

- Skimming operations inside the tanker’s boom allowed oil to escape. Secondary boom placed near the apexes of a tanker’s primary boom will enhance skimming operations and will be in effect September 30.

- Procedures are being written now on skimming inside a tanker’s primary boom to reduce oil entrainment.

- Booming the tidal flats and Solomon Gulch Hatchery will begin sooner. By September 30, Alyeska will pre-stage 6,800 feet of boom at the Container Terminal and additional boom-anchoring buoys at the tidal flats and hatchery will be installed.

- Skiffs dedicated to deploy and tend boom at the tidal flats and the hatchery will be in place by November.

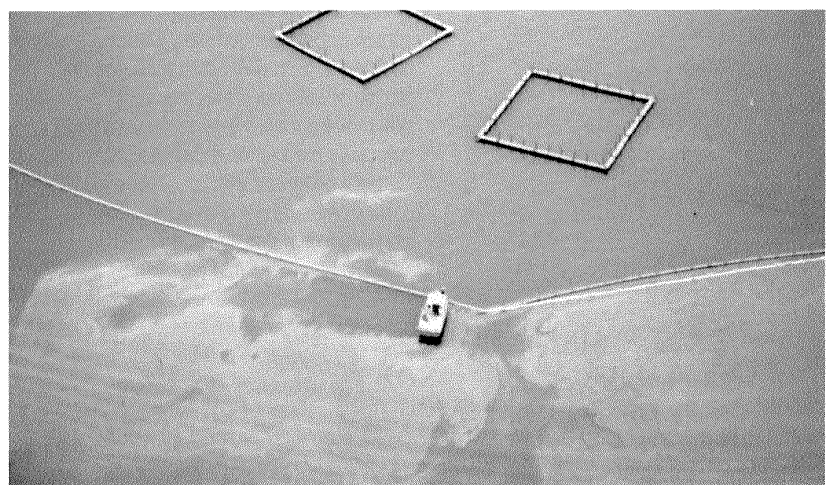
- Mooring of lightering vessels will be reviewed to avoid kicking sheens into Port Valdez.

- Use of skimmers close to a tanker will be re-examined.
- Alyeska is considering a new three-level incident response system to enhance communications in the initial stages of an incident.

Alyeska is committed to making these and other improvements. Working with regulators and citizens groups against a common enemy – oil spills of any magnitude – will strengthen Alyeska’s response force, and maintain its reputation as a world-class oil spill prevention and response organization.



Response workers deploy main boom around the Solomon Gulch Hatchery.  
Photo by Tom Sweeney/RCAC



Oil sheen begins to slip under the permanent boom and move toward net pens at the Solomon Gulch Hatchery. The more protective main boom was not in place until after oil reached the net pens. Photo by LeAnn Ferry/RCAC.

# Spill response

## Alyeska responds to comments, outlines follow up

Alyeska's response to the Eastern Lion oil spill has been reviewed and "action plans" are underway to improve some aspects of spill response, reassess certain practices and change others. In a debriefing session June 28, in Valdez, officials from Alyeska and SERV, Alyeska's escort and response arm, addressed points raised by RCAC and outlined steps being taken in light of lessons learned from the Eastern Lion spill.

In addition to RCAC, others at the debriefing included representatives of British Petroleum, Marine Overseas Corporation, the U.S. Coast Guard, Alaska Department of Environmental Conservation and Amerada Hess Oil Co.

Alyeska representatives first addressed points made by RCAC in its "advice and comments" on the spill response.

### RCAC advice and comments

- RCAC: The "Transrec" barge should have been used to recover oil at the berth.

Alyeska: The Transrec barge wasn't used at the berth, even though it had been tried in a drill, as they didn't feel it was the right tool for this type of spill because of its size, the quantity and thickness of the oil spilled, and the tidal conditions. However, as part of an action plan, two Transrec barge exercises at the terminal will be scheduled this summer to drill this strategy.

- RCAC: The Nearshore Response Plan was not mobilized and should have been.

Alyeska: The Terminal Response Plan was the operative plan, but elements of the nearshore plan were used: fishing vessels pulled U booms, a Desmi skimmer was employed off the landing craft Krystal Sea, and the hatchery and duck flats protection were deployed consistent with the near shore plan.

- RCAC: Oil leaking from the ship was not contained because the boom was not configured properly and tended, and more

boom should have been deployed.

Alyeska: Boom should be maintained constantly and sometimes it wasn't, but no boom in the world is going to contain 100 percent of the oil. Plans are underway to improve boom performance at the berths.

- RCAC: Alyeska should have responded more aggressively despite early reports that the spill was small. Spills are almost always underestimated at first.

Alyeska: Mobilization was slow because the spill happened on a Saturday night in the dark. SERV brought in equipment and people as soon as they were available.

- RCAC: Measures to protect the Solomon Gulch Hatchery and the Valdez Duck Flats should have been taken much sooner.

Alyeska: Agreed.

- RCAC: Oil escaped in part because boom was not configured properly.

Alyeska: Concluded after some study that generally booms had been placed at their optimum positions. However, these positions will be reassessed.

- RCAC: Although it's boring work, boom must be tended to ensure effectiveness.

Alyeska: Boom tending is crucial. SERV is planning more training and supervisors will make a greater effort to check booms in a response.

- RCAC: Permit applications to go ashore were not submitted until Monday, even though it was known Sunday that shorelines might be impacted.

Alyeska: Verbal permission from most of the landowners was obtained Sunday; the written applications had to wait until state offices opened for business. Responders could have gone ashore Sunday with the verbal permission.

### Action Plans

Alyeska and SERV representatives outlined action plans now in progress:

- Better booming and skimming at the



Oil escapes from containment boom around the leaking Eastern Lion, as skimmers work to pick up oil inside the boom. Photo by LeAnn Ferry/RCAC.

terminal – SERV is identifying ways to improve the system by trying different types of equipment and techniques. The plan includes exercises using the larger "Transrec" skimmers and development of a tactical guide for berth oil spill response.

- Protection of the duck flats and container dock – Protective measures and techniques are being reassessed. Boom and other equipment will be pre-staged at the tide flats. SERV will identify anchor points and anchor systems. SERV plans to develop new deployment plans for both areas. There will now be a strong commitment to protect the container dock and the duck flats in a spill in Port Valdez.

- Solomon Gulch Hatchery Protection – SERV plans to improve boom configuration, construct beach sealing and anchor points, place additional buoys offshore, add skiffs for boom deployment and tending in

shallow water, and commit to hatchery protection as a priority.

- Additional vessels – SERV has requested funding for several work boats and jet skiffs for use in Port Valdez spills, particularly at the duck flats and hatchery.

- Incident identification – A plan is being developed to "...position ourselves to get ahead of the curve," by categorizing spills and other incidents according to the level of emergency. A corresponding notification process and response scenario apply to each level of spill or incident. The preliminary plan calls for spills or incidents to be categorized as "green" (routine upset, fully contained, no threat; short list notification); "yellow" (unexpected, potential for physical or perceptual escalation; prepare for situation to get worse); and "red" (physically or perceptually out of control, local resources insufficient; full blown callout and response).

## RCAC recommends more aggressive spill response

Some of the oil that escaped into Port Valdez from the Eastern Lion could have been contained if Alyeska had responded more aggressively to what was thought to be a small spill. That was among the observations, advice and recommendations passed on to Alyeska by the RCAC in the wake of the Eastern Lion incident.

In a June 3 letter and report to Alyeska President David Pritchard, RCAC commented on the response to the May 21 spill and offered suggestions for improvement. Monitoring oil spills is a core responsibility of RCAC under both its contract with Alyeska and its federal mandate as the citizens' advisory group for Prince William Sound.

"An overriding theme of the Eastern Lion response was underestimation. RCAC strongly recommends that Alyeska be more proactive in its response rather than reactive. It is better to overestimate the size of a spill than to underestimate . . ." RCAC said.

The spill was initially thought to be about 50 gallons and the response effort reflected that assumption. If more equipment had

been mobilized early, less oil would have escaped initial booming and skimming, according to RCAC.

In the same vein, the report said, sensitive areas would have been better protected from escaping oil if Alyeska had mobilized the resources and equipment described in its Nearshore Response Plan and Hatchery Protection Plan.

RCAC said response efforts to protect the Solomon Gulch Hatchery should have been mobilized immediately. Oil got into the net pens at the hatchery because the main boom was not placed until after oil had reached the net pens. RCAC reiterated its previous recommendation that the hatchery be boomed automatically whenever oil is spilled in Port Valdez.

RCAC said more boom should have been deployed around the ship and boom should be tended constantly to ensure proper configuration and prevent oil from escaping. Sections of the boom at the hatchery ended up almost perpendicular to the currents, allowing oil to escape underneath. Containment boom around the tanker was observed flat against the hull of the ship.

*"An overriding theme of the Eastern Lion response was underestimation. . . It is better to overestimate the size of a spill than to underestimate . . ."*

– RCAC

RCAC also noted what went right in the spill response.

"While there were many areas that we feel can be improved upon, RCAC also recognizes the fact that if it were not for the efforts of many people involved, the Eastern Lion spill could have been much worse than it was," the letter said.

RCAC complimented the fishing vessels for fast and professional response and praised Alyeska's Ship Escort and Response Vessel System (SERV) for its quick response. SERV Nearshore Supervisor Steve Hood was singled out in particular, for recognizing the danger to the hatchery and mobilizing protective measures to minimize further oiling.

RCAC also gave high marks for BP's quick and decisive response; the availability of cleanup supplies and smooth functioning of most equipment; the conservative approach taken in reporting quantities of oil and water recovered; and the timely notification of state and federal regulatory agencies. With only minor exceptions, officials at Alyeska and BP cooperated with RCAC and helped observers gain access when needed.

RCAC's report on the spill response was prepared by contractor Tim Jones, RCAC's drill and spill monitor, in consultation with others on the RCAC response team.



**Eastern Lion Oil Spill**

**May 21, 1994**

**Preliminary Report  
prepared for  
Regional Citizens' Advisory Council  
Oil Spill Prevention and Response Committee  
by**

**Tim Jones  
May 31, 1994**

## ITEMS OF VALUE TO FUTURE RESPONSES

**TRAJECTORY TIMING:** *Note* : All of the movement mentioned below occurred in calm winds with light afternoon sea breezes. Times could expect to be shortened depending on the strength and direction of the wind.

**HATCHERY PROTECTION:** Oil was reported at Allison Point at 1400, 17 hours after the first report of the spill.

It was reported at the net pens at 1511, 18 hours, 11 minutes after the initial report. This occurred over a period of calm winds. Until 1400 oil had not been reported east of Berth 1.

The spill occurred on a flood tide with a general easterly set toward the hatchery for approximately 2 hours. At around 2300 high tide the current went slack then changed to a westerly set carrying oil to the west away from the hatchery. The tide changed again at 0544 and the flood ran until 1159. However currents at Allison Point and east continued westerly until close to 1500.

At the time of the low tide the oil had not passed Berth 3.

**Potentials:** If the spill had occurred at the beginning of the flood, oil conceivably could have reached the hatchery in as little as three hours.

Also oil can move from Allison Point to the hatchery in one hour just on currents with no wind.

### VALDEZ DUCK FLATS PROTECTION.

Oil was observed approaching the Duck Flats on the tide rip at 0538 Monday with some oil in the intertidal area. This was 33 hours after the spill was reported. Again this was with the first nine hours of the spill carrying the oil away. This followed six tide cycles with the flood just beginning. Also, the set of the

**Tuttle, Amanda**

---

**Subject:** Scenario 4 Walkthrough #4  
**Location:** VEOC x5151

**Start:** Monday, January 23, 2017 1:30 PM  
**End:** Monday, January 23, 2017 3:30 PM  
**Show Time As:** Tentative

**Recurrence:** (none)

**Meeting Status:** Not yet responded

**Organizer:** Tuttle, Amanda  
**Required Attendees:** Robertson, Roy; Robida, Jeremy; Scott, Jason; Alvarez, Walner LCDR; Woodgate, Melissa M (DEC); Carey, Anna M (DEC); Lapella, Pete V (DEC); Wood, Sue E.; Roach, William; Brewi, Melany; Sweet, Alyssa; Hicks, Scott A.; Parsons, Martin; Day, Mike W.; Hoffman, Betty; Swiss, Linda; Doyel, Ron L (DEC); Friedman, Bonnie; Love, Austin; MSU Valdez CDO USCG; Riutta, Aaron LT; CDR Joseph Lally

**Attachments:** [EXTERNAL]: (Forward to others) WebEx meeting invitation: Scenario 4.msg

VMT Coordination Group,

We would like to expand the participation of the our next meeting on the 23<sup>rd</sup> of January to the entire VMT Coordination Group. Several items that we would like to discuss involve those who are not in the Scenario 4 Sub-group. We would like to focus our time on discussing the following three items:

- Differences in Trajectories of GNOME and OilMap,
- Free Water Recovery, and
- SAP Decision Matrix.

Since our last meeting we have been working with a 3<sup>rd</sup> party sub-contractor to explain the variances in the two trajectory models and their respective algorithms. During our meeting we will be hosting a presentation to answer some of these questions.

Additionally this week please be expecting a draft recovery calculation table including the free water recovered volumes and a draft Decision Matrix.

You will notice that I scheduled the WebEx to start at 1:15 however the meeting does not start until 1:30. I would like to ask that if you are going to be logging into WebEx to please do so 10-15 minutes before hand in case there are any technical issues.

We look forward to sharing our progress next week.

Sincerely,

Amanda and Sue

<<[EXTERNAL]: (Forward to others) WebEx meeting invitation: Scenario 4>>

**Join by phone**

Join by phone

Audio Connection 5151 (Internal within APSC)

(907) 787-5151 (Anchorage)

(907) 450-5151 (Fairbanks)

(907) 834-5151 (Valdez)

(888)878-7577 (Toll-Free)

Participant Access Code:262 396 09

**Doyel, Ron L (DEC)**

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**From:** Doyel, Ron L (DEC)  
**Sent:** Tuesday, February 14, 2017 2:46 PM  
**To:** Parsons, Martin  
**Cc:** Merrell, Geoff T (DEC); Carey, Anna M (DEC); Tuttle, Amanda  
**Subject:** VMT SAP Matrix, proposed changes

Martin, in response to your request for the regulatory authority related to the Duck Flats and Hatchery Matrix,

The SAP matrix is integrated into the currently approved plan as a step in the initial part of a response to quickly evaluate the need to deploy resources to nearby sensitive areas. The matrix was added to the plan because it was recognized that during the response to the Eastern Lion spill (tanker at the terminal), sheen was seen at both the Hatchery and the Duck Flats shortly after the spill. The purpose of the matrix is to ensure that the Hatchery and Duck Flats are evaluated early on in a response because these sites can be quickly impacted and the decision to deploy may be made before the unified command could be stood up. It is important to include the unified command in changes to the matrix because the decision to deploy the Hatchery and the Duck Flats will affect the response as a whole.

The original development and adoption of the matrix was accomplished through the VMT Work Group and has been a part of the VMT response plan through several iterations. Changing the way the information in the matrix is captured in the plan was discussed in the work group process, including the possibility of removing the actual matrix from the plan during meetings this summer. On Jan 20<sup>th</sup> a draft of the matrix was provided for review. The proposed matrix is similar to the current matrix, but was proposed to function as a job aid that would be referenced to in the plan. However, no additional information on what would be captured in the plan concerning evaluation of the Duck Flats and Hatchery has been seen. The original matrix was not perfect, however, at this point I will need to see a more robust justification for the proposed action.

Regulations related to the matrix:

The Duck flats and Hatchery matrix has been utilized as a way to make sure that the sensitive areas (duck flats and hatchery) are identified to be “given priority attention” as called out in 18 AAC 75.425(e)(3)(J)(iii) and to ensure that the decision making process of weather to deploy them is made in a timely manner (18 AAC 75.445(d)(4)).

AS 46.04.030(e) states that the Department “...may attach reasonable terms and conditions to its approval or modification of a contingency plan that the department determines are necessary to ensure that the applicant for a contingency plan has access to sufficient resources to protect environmentally sensitive areas....”

18 AAC 75.445(d)(4) states that “sufficient oil discharge response equipment, personnel, and other resources are maintained and available for the specific purpose of preventing discharged oil from entering and environmentally sensitive area or an area of public concern that would likely be impacted if a discharge occurs, and that this equipment and personnel will be deployed and maintained on a time schedule that will protect those areas before oil reaches them according to the predicted trajectories for an oil discharge of the volumes established under (RPS regs); areas identified in the plan must include

areas added by the department as a condition of plan approval.

Ron

Ron Doyel  
Prince William Sound Unit Supervisor  
Prevention, Preparedness, and Response Program  
Alaska Department of Environmental Conservation  
[Ron.doyel@alaska.gov](mailto:Ron.doyel@alaska.gov)  
Phone: 835-8012  
Mobil: 419-0001  
Fax: 835-2429



**From:** [Lapella, Pete V \(DEC\)](#)  
**To:** [Dovel, Ron L \(DEC\)](#)  
**Cc:** [Woodgate, Melissa M \(DEC\)](#); [Carey, Anna M \(DEC\)](#)  
**Subject:** FW: SAP Mobilization Decision Matrix  
**Date:** Thursday, June 30, 2016 11:27:22 AM  
**Attachments:** [Draft SAP Mobilization Decition Matrix.xlsx](#)

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FYI, Pete

*Pete La Pella  
Environmental Program Specialist III  
Alaska Department of Environmental Conservation  
SPR - Spill Prevention & Response  
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**From:** Wood, Sue E. [mailto:Sue.Wood@alyeska-pipeline.com]  
**Sent:** Wednesday, June 29, 2016 5:52 PM  
**To:** Lapella, Pete V (DEC) <pete.lapella@alaska.gov>; Robida, Jeremy <jeremy.robida@pwsrccac.org>; Woodgate, Melissa M (DEC) <melissa.woodgate@alaska.gov>; Swiss, Linda <swiss@pwsrccac.org>; Scott, Jason <Jason.R.Scott@uscg.mil>; Parsons, Martin <Martin.Parsons@alyeska-pipeline.com>; Tuttle, Amanda <Amanda.Tuttle@alyeska-pipeline.com>; Gilson, Dan <Dan.Gilson@alyeska-pipeline.com>; Johns, Steven <Steven.Johns@alyeska-pipeline.com>  
**Subject:** SAP Mobilization Decision Matrix

A RECAP OF THE VMT SUB-GROUP DISCUSSION ON JUNE 28 CONCERNING THE SAP MOBILIZATION DECISION MATRIX

Sue, Amanda, Steve and Dan from Alyeska met previously to review and prepare some recommended improvements to the form. In its current state, the form is confusing to use, counts visibility twice, and almost always requires deployment (scores 25 or higher) even when the spill amount is small and the wind and wave conditions are favorable. We attempted to modify the form to make it more representative of decisions likely to be made by the IRIC or UC during a real response. The proposed edits provide more consideration for the lower concerning parameters, like having calm water, low wind velocity, and wind direction from the North or East that would push oil away from the Hatchery and Duck Flats.

Some of the proposed changes are:

- More specificity on wind velocity, wave height, magnitude, source, and containment.
- Higher scores for certain levels of wind velocities and wave heights.
- Replace Deployment Impacts (low tide, shore ice, visibility) with Tide (ebb or flood).
- Delete current velocity (not observable/keep to known variables).
- Delete visibility (not sure this is important for the decision to deploy or not).

required, and the review began on August 20, 2002. Alyeska's Government Letter No. 02-18949, dated August 13, 2002, notified the Department that Laurie Hull-Engles assumed responsibility for administering the VMT C-Plan on July 1, 2002.

Condition 2(b): C-Plan Management Meetings.

*Within 30 days of plan approval action the Designated Representative will meet the representatives of the Department, and continue to meet thereafter on a monthly basis. The purpose of these meetings will be to discuss the following topics: assurance of compliance with the conditions of approval; coordination of drills, inspections, training or other activities related to the contingency plan; updating best available technology or other requirements which may apply to the Facility at the time of the next renewal application; introduction of plan amendments as necessary; identifying and resolving issues that may affect expeditious submission, review, and approval of renewal application. By the 15<sup>th</sup> of each month, the Designated Representative will submit to the Department a monthly summary status update on conditions.*

Status: Complete to date and ongoing.

Condition 2(c): Department's discretion to see consultation/inform stakeholders.

*The Department, at its discretion, may seek advisory input or consultation with subject matter experts or other stakeholders regarding spill response and contingency planning issues. The Department, at its discretion, will inform stakeholders of significant items to be addressed by the plan holder prior to submission of an application for renewal as a means to facilitate expeditious review.*

Status: Unchanged. No action required at this time.

Condition 3(a): Scenarios.

*During the current plan approval period, the plan holder will participate in a scenario workgroup. The workgroup will be co-chaired by ADEC and the plan holder. The objective of the workgroup will be to improve the response planning scenarios to clearly demonstrate that strategies and procedures are in place to conduct and maintain an effective response and are usable as a general guide for a discharge of any size. Draft scenarios are due in written form to the Department by April 1, 2001. Final scenarios are due in written form to the Department by April 1, 2002. Final scenarios will be incorporated into the July 8, 2002 plan renewal application and will be approved as part of the April 2003 plan renewal.*

Status: Complete to date and ongoing. Final scenarios were submitted to the Department on 4/1/02. The final scenarios are included in the July 3, 2002 VMT C-Plan submitted for public review. Public review is required by this Condition.

Condition 4(a): Multi-year Exercise Schedule.

*Within 60 days of plan approval the plan holder will provide the Department a multi-year field exercise schedule. These exercises will be carried out through the term of the plan approval and will:*

1. *exercise all scenarios in the plan up to and including the RPS scenarios;*

## FINDINGS DOCUMENT

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The Department is concerned that during a real incident, the delay in the mobilization of the free oil task forces could potentially result in loss of opportunities to timely control or contain the further spread of oil. Although the protection of the Duck Flats and the Solomon Guich Hatchery remain a priority, the Department would like to further explore with the plan holder the most strategic use of resources. The Department would like to ensure that: (1) sensitive areas closest to the Terminal are protected and (2) the leading edge of the spill is controlled as early as possible to prevent additional sensitive areas threats. Alyeska has agreed to improve methodologies (including possible pre-deployment of equipment) to be able to more quickly protect these sensitive areas.

Fishing vessel fleet training has been adequately addressed by the text added in Alyeska's January 23, 2000 submittal of additional information, Part 3, SID 2, Section 5.9.3. Please also refer to Issue #4, Oil Spill Response Training.

### ISSUE #3: RESPONSE STRATEGIES

#### STATEMENT OF ISSUE

Has the plan holder provided a description of the actions to be taken to contain and control the spilled oil?

Are the strategies sufficient to meet the applicable response planning standard?

#### FINDINGS

The Department finds that the plan holder has provided adequate description of the actions to be taken to contain and control spilled oil. The strategies presented are sufficient to meet the applicable response planning standard.

The Department supports Alyeska's initiative to develop a tactical guide for on land containment and control strategies, as set out in Alyeska's revised text of Part 2, Section 2.7.5 in their January 23, 2000 submittal. This guide will be the product of a joint Alyeska, RCAC, JPO and ADEC work group that will commence the initial scoping and participate in the guide development. Although Alyeska states that only Part 1 of the guide will be a SID to the contingency plan, the Department requires that Part 2 also be a SID as it contains supplemental information required under 18 AAC 75.425(e)(3). Submission of Part 2 and a schedule for the tactical guide completion will be a condition of plan approval. Please refer to Condition No. 5.

#### REGULATORY AUTHORITY

The regulations under 18 AAC 75.425(e)(1)(F) Response Strategies require:

SOA 008236

Alaska as a whole. The Solomon Gulch Hatchery and Valdez Duck Flats remain high priorities for protection in the Port of Valdez. Tactics specific to the Valdez Duck Flats and the Solomon Gulch Hatchery remain in the plan, and the response timeframes and capability to deploy these tactics have not changed in this amendment. Equipment remains staged to deploy these specific sensitive areas. The Solomon Gulch Hatchery and Valdez Duck Flats remain the only sensitive areas in the port with equipment specifically designated to deploy them. Volume 3 Section 9.6 still commits APSC to installing permanent boom whenever fish fry are in the fish pens.

PWSRCAC was concerned about the overall reduction in response resources for sensitive area protection in the Scenario 4 updates. The department has reviewed the updates to the scenario and finds overall appropriate resources are deployed for sensitive area protection. The updates to Scenario 4 are sufficient for this review, but the department will continue to exercise sensitive area protection and evaluate equipment needs and prioritization strategies.

**Issue #6 Update of the Solomon Gulch Hatchery and Valdez Duck Flats Sensitive Area Protection Mobilization Decision Matrix**

Statement of Issue:

Ensure that the Matrix will be a useful tool in assisting initial decisions regarding sensitive area protection specific to the Duck Flat and Solomon Gulch Hatchery.

Regulatory Authority

18 AAC 75.425(e)(3)(J)(iii) requires “identification of which areas will be given priority attention if a discharge occurs.”

Finding

The Sensitive Area Prioritization Matrix in the plan is used as a way to make sure that some of the sensitive areas that may be affected in a spill, the Valdez Duck Flats and Solomon Gulch Hatchery, are identified to be “given priority attention” as required under 18 AAC 425(e)(3)(J)(iii). The intent of the Matrix is to incorporate the most relevant factors in an actual incident, and to assist in the initial decision-making process of whether to deploy the Valdez Duck Flats and Solomon Gulch Hatchery and to confirm this decision is made in a timely manner. However, as explained in Section 9.0.2.1 of Volume 3, exigent conditions must be taken into consideration so that responders are able to ensure that the spill containment recovery and sensitive protection can occur concurrently, based on incident specific objectives and prioritization.

The VMT plan identifies multiple sensitive areas in Port Valdez that should be given priority attention, and the Matrix is an additional step to ensure the Valdez Duck Flats and the Solomon Gulch Hatchery are evaluated for deployment in a timely manner.

Comments were received from PWSRCAC expressing concern for changes to the Matrix with the removal of wave height, visibility, and current direction. The previous Matrix was more complex and required the initial on-scene incident commander to evaluate conditions that were challenging to capture correctly and quickly. It was identified that the Matrix was not assisting in the prioritization of all sensitive areas in Port Valdez and was being used ineffectively in making initial decisions.

SOA 008411

With the previous Matrix, in exercises, resources were mandated to deployment of the Valdez Duck Flats and Solomon Gulch Hatchery when the resources would have been more appropriately deployed to other sensitive areas in Port Valdez. The updated Matrix has been modified to include the most influential initial inputs for decision-making early in a response before a Unified Command, Operations Section, and Environmental Unit can be stood up.

The department finds the updated Matrix does not change the commitment to evaluate and deploy the Valdez Duck Flats and Solomon Gulch Hatchery within the same timeframes. The department will continue to assess this updated tool in exercises to ensure its usefulness in appropriately prioritizing response actions.

**Issue #7      Decant Plans and Retention Time**

Statement of Issue:

Ensure retention times listed in the plan follow the vessel specific Load and Decant plans.

Regulatory Authority

18 AAC 75.425(e)(1)(F) requires the VMT plan to have the following:

- (ix) procedures for transfer and storage of recovered oil and oily water, including methods for estimating the amount of recovered oil;
  
- (x) procedures and locations for temporary storage and ultimate disposal of oil contaminated materials, oily wastes, and sanitary and solid wastes, including procedures for obtaining any required permits or authorizations for temporary storage or ultimate disposal.

Finding

As a waste management option the VMT plan has the equipment to decant water from recovered oil storage barges through a permit process as outlined in Section 11.3.2.1. The minimum suggested retention time was changed as part of this amendment, and during the RFAI process APSC explained that this retention time is per the barge specific Load and Decant plans. The department finds it appropriate to use the barge specific Load and Decant plan retention times as a starting place for decanting plans that would be produced specific to an incident. Prior to any decanting an incident specific decanting plan would be produced and approved through the permitting process.

Comments were received from PWSRCAC identifying concerns and confusion about the load and decant plans. These Load and Decant plans are produced specifically for each barge and are available for the barges that are currently listed in the plan. This amendment is specific to the barges currently in the system. These Load and Decant plans are the same plans for the SERVS response barges that were reviewed as part of the 2017 PWS Tanker plan renewal.

**Issue #8      Condition of Approval No. 5: Nonmechanical Response Monitoring and the Use of Dispersants**

Statement of Issue:

SOA 008412

Solomon Gulch Hatchery and Valdez Duck Flats sensitive area protection mobilization decision matrix

Factors (select one per row)						Sub Totals	Scenario 2 (50 bbls to water)	Scenario 3 (1200 bbls to land)	Alternate Scenario (1 bbl to water)	Alternate Scenario (1 bbl to water)	Alternate Scenario (13 bbls to water)
Wind Velocity (now)	40 knots	20 knots	0-10 knots				10 knot wind	20 mph wind	40 knot wind	25 knot wind	30 knot wind
	3	2	1				1	2	3	3	2.5
Wind Velocity (proposed)	30+ knots	15-29 knots	1-14 knots	0 knots			10 knot wind	20 mph wind	40 knot wind	25 knot wind	30 knot wind
	3	2	1	0			1	2	3	2	3
Wind Direction (now)	From West	From South	From East	From North			North East	North East	North West	West	South
	4	4	1	1			1	1	4	4	4
Wind Direction (proposed)	From West	From South	From East	From North			North East	North East	North West	West	South
	3	3	0	0			0	0	3	3	3
Wave Height (now)	4 ft.	2 ft.	Calm				1-2 feet waves	3-5 feet waves	4 feet waves	3 feet waves	3 feet waves
	3	2	1				2	3	3	3	3
Wave Height (proposed)	3+ ft.	1-2 ft.	Calm				1-2 feet waves	3-5 feet waves	4 feet waves	3 feet waves	3 feet waves
	3	2	0				2	3	3	3	3
Current Velocity (now)	> 2 knots	1 - 2 knots	0 - 1 knots				.25 knot current	.75 knot current	.75 knot current	1 knot current	3 knot current
	3	2	1				1	1	1	1	3
Current Velocity (Propose deletion)	>2 knots	1-2 knots	0-1 knots	Suggest deletion of Velocity and use of wind & tide stages to account for this.							
	3	2	1								
Visibility (now)	Low	Good					Poor visibility	Visibility 1-2 NM	Poor visibility	Good visibility	Poor visibility
	2	1					2	1	2	1	2
Visibility (Propose deletion)	Low	Good	Not sure how visibility impacts oil getting to these areas or the ensuing response actions. Suggest deletion.								
	2	1									
Magnitude (now)	Unknown Quantity	10-35 bbls	High Rate of Release	2-9 bbls	< 2 bbls	< 0.5 bbls					
	10	10	10	5	3	1	50 bbls	1200 bbls	1 barrel	1 barrel	13 bbls
Magnitude (proposed)	36+ bbls	16-35 bbls	1-15 bbls	<1 bbls							
	10	7	3	0			10	10	0	0	3
Source (now)	Unsecured	Unknown	Secured				Loading arm clamp to ship's manifold	Puncture of "A" header pipe at ETF	secured	secured	unsecured
	10	10	1				0	0	0	0	10
Source (proposed)	Unsecured	Unknown	Secured	(Unknown = Unsecured)							
	10	10	0								
Containment (now)	Uncontained	Unknown	Contained				Contained with some oil escaping to west	Contained within Settlement Ponds	Uncontained	Uncontained	Uncontained
	10	10	5				10	5	10	10	10
Containment (proposed)	Uncontained	Mostly Contained	Contained				Contained with some oil escaping to west	Contained within Settlement Ponds	Uncontained	Uncontained	Uncontained
	10	5	0				10	0	10	10	10
Deployment Impacts (now)	Low Tide	Shore Ice	Low Visibility	Good Visibility	(visibility is counted twice in current matrix)						
	2	2	2	1			Poor Visibility	Good Visibility	Poor Visibility	Good Visibility	Poor
Tide (new-replaces Deployment Impacts)	Flood	Ebb									
	2	0					Flood tide	Ebb tide	Flood	Flood	Flood
							2	0	2	2	2
<b>Total</b>						OLD	<b>29</b>	<b>24</b>	<b>28</b>	<b>26</b>	<b>46.5</b>
						NEW	<b>25</b>	<b>15</b>	<b>21</b>	<b>20</b>	<b>24</b>

SOA 008416



THE STATE  
of **ALASKA**

GOVERNOR SEAN PARNELL

304.60 VMT EXE  
**Department of Environmental  
Conservation**  
2013.12.13 Scenario 4  
DIVISION OF SPILL PREVENTION & RESPONSE  
INDUSTRY PREPAREDNESS PROGRAM  
JPO/FR/PI Section

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February 5, 2014

File No 304.60

Joseph P. Robertson  
Regulatory Affairs Director  
Alyeska Pipeline Service Company  
P.O. Box 196660  
Anchorage, AK 99519-6660

Subject: **Valdez Marine Terminal Oil Discharge Prevention and Contingency Plan,  
ADEC Plan Number 08-CP-4079. Scenario 4 Exercise, June 12 – 13, 2013.**

Dear Mr. Robertson:

On June 12, 2013, the Alaska Department of Environmental Conservation (department) evaluated the Alyeska Pipeline Service Company (Alyeska) and US Coast Guard led Area Exercise that consisted of the Incident Management Team (IMT) portion of the response to the Valdez Marine Terminal (VMT) Oil Discharge Prevention and Contingency Plan (plan), Scenario 4. A separate limited equipment deployment based on the same scenario was exercised on June 13, 2013.

Alyeska and the US Coast Guard have determined that the exercise was successful with a number of recommendations and best practices identified. The department participated in the overall debriefing and evaluation process, and we concur with many of the findings and we agree that most of the objectives of the exercise were met. A dual purpose of the exercise was to demonstrate Alyeska's ability to meet response commitments per 18 AAC 75.485 for the VMT plan. With the regulatory requirements for exercises in mind, the department offers the following observations and recommendations, many of which were discussed during and after the exercise:

1. **IRIC/IIC/IC:** The command structure in the Terminal Emergency Operations Center (TEOC) was not clear. The Initial Response Incident Commander (IRIC) and oncoming Initial Incident Commander (IIC) did not clearly demonstrate the change of command.

The department recommends Alyeska review the intent of the IRIC, IIC, and IC positions and:

- a. Clarify the intent of these positions and their response duties in the VMT plan and in response personnel training.
- b. Improve visual documentation of the response organization in the TEOC as the response develops.
- c. Clearly verbalize that transfer of command has occurred.
- d. Establish and use Incident Command System (ICS) terminology uniformly for response positions as much as possible to reduce confusion.

SOA 009352

2. **VMT Plan:** During the exercise, department evaluators observed confusion over the use of the Unified Plan, the Prince William Sound (PWS) Subarea Contingency plan, the tanker plan, and the VMT plan for various operational and planning actions, on multiple occasions. For example: in lieu of using detailed VMT specific information, much of the sensitive area protection planning was based on the Geographical Response Strategies (GRS). The GRSs do not reflect the level of information and resources found in the VMT plan, nor do they reflect all of the areas identified by the VMT plan and its associated Sensitive Area Tactical Guide. A spill originating from the VMT should rely on the currently approved VMT plan to guide the response.

One stated goal of the VMT plan renewal process has been to modify the plan in a manner which reduces confusion over which plan or plans to use as a guide during a response. In addition to plan renewal efforts, the department recommends that responders are specifically trained in the use of the VMT plan to guide a response to an oil spill originating from the VMT. In order to ensure credit in future exercises for the VMT plan, it is critical that the VMT plan is exercised accordingly.

3. **Exercise Artificiality:** During the exercise multiple instances of unrealistic response practices and assumptions were observed. Examples include:
  - a. During the lunch break on June 12, 2013, one staff person was left to manage the Operations Section. Spill response management continues through meal times and personnel management should ensure adequate manning while breaks are given.
  - b. Some resources were moved or noted as performing faster than is realistic. For example, the operations board stated OWTF 5 was skimming by 0630. This timing does not appear to be realistic given the June 13, 2013, deployment when it took over two hours for OWTF 5 (*Valdez Star/Allison Creek*) to start skimming under ideal conditions and with response resources at the ready.

It is recommended Alyeska implement strong exercise development and planning guidelines to ensure more realistic staffing levels, ensure exercise controllers are trained to correct unrealistic response approaches, and minimize exercise artificiality as much as possible.

4. **Duck Flats:** Due to an existing response at the Valdez Container Terminal the Duck Flats sensitive area protection tactic was only deployed on the west side of the dock, not the east side. The equipment and personnel needed to deploy both east and west sides of the Duck Flats were utilized to deploy boom on the west side, and the partial deployment took seven hours to complete. The VMT plan states that the Duck Flats tactic, which includes installation of protection boom on both east and west sides, would be deployed within 6-10 hours. This deployment calls Alyeska's ability to meet this commitment into question. The department recommends Alyeska practice the tactic to ensure it is able to fully deploy the tactic with the resources and timeframes stated in the approved VMT plan. Department personnel would like to be invited to observe all future training deployments of the Duck Flats protection strategies.
5. **Solomon Gulch Hatchery Deployment:** The deployment of protection boom at the Hatchery, a priority sensitive area, did not demonstrate Alyeska's ability to protect the hatchery sufficiently or in a timely manner. Responders did not fill boom properly and the

DUCK  
FLATS  
TACTIC



deployment of shoreline boom did not create an adequate seal to preclude oil. Improved training and training frequency are recommended to ensure responders can protect sensitive areas identified in PWS. The department finds this objective unmet for the exercise.

6. **OWTF 5 Maneuverability:** The tactic consists of the skimming vessel *Valdez Star* maneuvering with the tank barge *Allison Creek* on the hip, in coordination with two fishing vessels towing boom in a U-shape ahead of the *Valdez Star*. The *Valdez Star* had difficulty maintaining effective positioning in relation to the boom gate. The *Allison Creek* was empty for this exercise and therefore should have been easier to maneuver than if it was being loaded with recovered liquid as it would be in an oil spill response. This tactic has been successfully practiced in the past. It is recommended Alyeska review and revise the training program for this tactic to ensure it can be successfully implemented in a response. If this tactic can no longer be implemented as described in the VMT plan, then the tactic should be reviewed and revised to provide a description of the tactic that would best meet the intent of this task force.
7. **Fishing Vessel Training:** It was evident from elements of the deployment that the Fishing Vessel Training program is preparing responders for deployment and use of spill response equipment. Both the Near Shore Tactic N-1B for the Current Buster and the inflatable boom deployment from the *Valdez Star* were executed efficiently and were well maintained throughout the exercise.
8. **Experimental Response Techniques:** During the exercise, Alyeska proposed the use of dispersants as a vapor suppressant, an experimental technique. This prompted discussion on the potential uses of dispersants and necessary analysis Alyeska, agencies, and the local community would need to carry out in order to approve untested response methods in an emergency event. While a decision was not reached in this specific instance, the discussion was valuable. It is recommended that:
  - a. Alyeska conduct further research into the application and effectiveness of dispersants as a suppressant for Alaska and North Slope Crude.
  - b. These conversations continue with agencies on how to use experimental response techniques and work to develop a process for handling these requests in future responses.
  - c. If it is determined that vapor suppression is a viable use of dispersants, their use for this purpose should be an objective for future exercises to continue testing the methods and flesh out remaining issues.
9. **Incorporation of City of Valdez and Human Health and Social Services (HHS):** The presence of community and HHS representatives was beneficial for all participants. Bringing the appropriate participants into exercises facilitates learning, identifies knowledge gaps, and improves relationships for an emergency response. It is recommended that Alyeska continue to invite a wide range of the appropriate jurisdictional agencies and community representatives to future training and exercises.

Sent to Bill  
~~GA~~

304.300 VMT 2001  
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**DIVISION OF SPILL PREVENTION AND RESPONSE**  
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**TAPS/JPO Section**

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**August 27, 2001**

Robert I. Shoaf  
Vice President  
Alyeska Pipeline Service Company  
1835 S. Bragaw, MS 528  
Anchorage, Alaska 99512

Dear Mr. Shoaf,

RE: Valdez Marine Terminal Oil Discharge Prevention and Contingency Plan, CP-35-2,  
Condition of Approval 6 (a), Hatchery and Duck Flats Protection Capabilities.

The purpose of this letter to transmit observations from the government initiated drill held on July 23, 2001 and the resultant status of Condition of Approval 6 (a).

As suggested in Alyeska Government letter # 01-17101, dated May 8, 2001, the agencies of the Joint Pipeline Office, including the Department of Environmental Conservation initiated an exercise requiring the protective booming of the Solomon Gulch Hatchery and the Valdez Duck Flats. Both SERVS personnel and the agencies have agreed that although the exercise objectives were met, the overall expectation of demonstrating response improvement was not met. Several key field observations resulting from the drill were as follows:

Initial activation of shore based personnel at the VEOC went very well, although field management seemed to lag.

Some protection resources were incomplete including lack of boom and anchor packages.

Equipment maintenance was insufficient. The CSI boom cable appeared loose on many sections and the shore seal boom air tubes initially leaked on seventeen sections, with three additional sections deflating during the course of the deployment.

SOA 009486

Crews were unable to deploy the Hatchery boom using established anchor points due to previously noted changes in the net pen configuration. No measures were implemented to compensate for this prior to the exercise.

The overall timeframes to deploy and configure the protection strategies was at the very upper limit of that given in the contingency plan.

It was the intention of the July 23 exercise to demonstrate sufficient reason to close out the condition of approval. However, given the above comments, we choose to keep the condition open until such time that 1) the above comments, as well as lessons learned from the exercise, can be addressed and 2) another exercise can be called with improved results.

To assist the agencies in calling another exercise, please send to us, as soon as possible, a listing of scheduled terminal work and other specific conditions that may preclude the exercise. The agencies will plan to call the next exercise within the next couple of months.

Thank you for your efforts to improve protection of the Valdez Duck Flats and the Solomon Gulch Hatchery. We look forward to following up on the July 23 exercise. If you have any questions, please do not hesitate to contact me.

Sincerely,

Bonnie Friedman  
TAPS/JPO Section Manager

Cc: Rod Hanson, APSC  
Jule Magee, APSC  
Bob Anderson, APSC  
Dennis Maguire, APSC  
Rod Hoffman, APSC  
Mike Wrabetz, BLM/JPO  
Betty Schorr, ADEC  
John Kotula, ADEC  
Leslie Pearson, ADEC

SOA 009487

- e. OL/TF 1 is listed twice within Hour 0-1. Are these resources performing simultaneous task or is the group divided? Please clarify the information in a trackable way.
- f. Please use ICS nomenclature in lieu of VMT daily positions. Example: Response Actions – OL/TF 1, Hour 0-1, lists Response Coordinator performing and directing actions. This position should be listed in accordance with ICS nomenclature.
- g. Response Actions On Water, Hour 0-1. This action describes workboats as dispatched with boom to enclose drainage without a task force assigned. This was interpreted as being part of OW/TF 1, however, during the group walk-through, it was determined that this action is performed by FO/TF 1 (also called NS FO/TF 1 on Table 5.4) which is already accounted for during hour 0-1 in Table 5-5.
  - i. Ensure task force identification is consistent.
  - ii. Remove duplication of resources on Table 5-5 by deleting the first mention of workboats.
- h. Response Actions on Water, Hour 0-1, states that NS/TF 1 is mobilizing to boom area around drainage 58 as well as sending an exclusion strike team to boom Allison Creek. During the group walk-through it was determined that booming Allison Creek is not feasible during Hour 0-1 and should be moved to Hour 1-3; mobilization of task forces would be ongoing during hour 0-1. Please correct this information to reflect realistic timeframes.
- i. Response Actions- On Land, Hour 0-1, states staging is mobilized. What resources are assigned to this action within Table 5.6, Resource Tally, page 5-29.
- j. Response Actions - On Water, Hour 0-1, Provides duplicate information for ESA protection mobilization, mentioned above in rows for Protection of ESAs. Consider eliminating duplicate information to ensure the information is presented clearly. Discharge Tracking, Hour 1-3 states “Situation scores 45 on protection matrix”.
  - i. Please Reference Part 1 decision matrix for protection of Duck Flats and Solomon Gulch Hatchery.
  - ii. The decision to mobilize happened in Hour 0-1 and the analysis using the decision matrix is cited during Hour 1-3. Please correct this discrepancy.
- k. Scenario 5, Table 5-5, page 5-25. Protection of ESAs, Hour 1-3, during the group walk-through, the need for Hatchery and Duck Flats actions to be broken out separately in to individual rows was identified. This would better correspond to the layout established in Hour 0-1 and present the information in a clear and trackable way.
- l.



**Comments on Alyeska Pipeline Service Company,  
Valdez Marine Terminal Oil Discharge Prevention and Contingency  
Plan, Amendment 2017-1**

**Submitted to the  
Alaska Department of Environmental Conservation  
United States Bureau of Land Management  
United States Coast Guard  
United States Environmental Protection Agency  
United States Department of Transportation**

Submitted by:

Prince William Sound Regional Citizens' Advisory Council (PWSRCAC)

**April 13, 2017**

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## 1. Regulatory Basis for Comments

The following comments are based on state and federal laws and regulations pertaining to Alyeska Pipeline Service Company's (APSC) Oil Discharge Prevention and Contingency Plan for the Valdez Marine Terminal (VMT), including:

1. Title 46 of the Alaska Statutes;
2. Title 18, Chapter 75 of Alaska Regulations;
3. 49 CFR Part 194, U.S. DOT's Regulations for Response Plans for Onshore Oil Pipelines;
4. 33 CFR Part 154, Subpart O, USCG Regulations for Facility Response Plans;
5. 40 CFR Part 112, EPA Regulations for Facility Response Plans;
6. Oil Pollution Act of 1990; and,
7. TAPS Grant and Lease.<sup>1</sup>

## 2. Volume 1, Part 3, Section 3.7, Non-Mechanical Response Information

The Alaska Department of Environmental Conservation's (ADEC's) January 14, 2015 Valdez Marine Terminal Contingency Plan (VMT C-Plan) revised approval included Condition of Approval No. 5 (COA 5), "Requirement to Include Nonmechanical Response Monitoring of Environmental Effects of the Nonmechanical Options." That condition states:

*APSC is required to develop protocols to assess potential environmental consequences, provisions for monitoring and real-time assessment of environmental effects of the nonmechanical response options proposed for inclusion into the VMT plan. APSC must demonstrate resources to conduct the required assessment and monitoring are available in-house or secured by contract. Further discussion on this issue can be found in Issue No. 24 in the attached findings document. This amendment must be submitted to the department by December 31, 2016. The amendment implementing this condition will undergo public review under 18 AAC 75.445. The department encourages review through the VMT Coordination Group prior to submission of an amendment to the plan.*

ADEC's November 21, 2014 VMT C-Plan Findings Document (Issue No. 24: Nonmechanical Response Monitoring) concluded improvements to APSC's nonmechanical response monitoring program were necessary:

*The department finds the plan includes provisions for monitoring efficiency and effectiveness of dispersant or in situ burning **but does not include specific mechanisms to assess the environmental consequences or provisions for continuous monitoring of its environmental effects.** To address this, the department is requiring APSC develop protocols for environmental monitoring as stated in Condition of Approval 5. [Emphasis added].*

<sup>1</sup> Renewal of the Agreement and Grant of Right-of-Way for the Trans-Alaska Pipeline and Related Facilities between The United States of America and Amerada Hess Pipeline Corporation, BP Pipelines (Alaska) Inc., ExxonMobil Pipeline Company, Phillips Transportation Alaska, Inc., Unocal Pipeline Company, and Williams Alaska Pipeline Company, LLC, 2003.

*The plan proposes use of nonmechanical response options, dispersants and in situ burning, as one of many tools to respond to an oil spill. **The plan does not however include a description of the specific mechanisms in place to assess the environmental consequences of nonmechanical response options and provide continuous monitoring with real-time assessment of environmental effects.** The plan does reference the Special Monitoring of Applied Response Technologies (SMART) protocol which provides procedures for monitoring the effectiveness of the nonmechanical response options on the oil. The response to R2RFAI 35 references the company that is contracted to monitor effectiveness of both dispersants and in-situ burning. **Department contact with the contractor via telephone on August 28, 2014, confirmed the contractor does not provide monitoring of environmental consequences of nonmechanical response options or continuous monitoring of their environmental effects. The plan also does not include an assessment of potential environmental consequences and provisions for continuous monitoring with real-time assessment of environmental effects.** [Emphasis added].*

**The department is requiring APSC to develop protocols to assess the potential environmental consequences of the nonmechanical response options presented in the plan and to provide for continuous monitoring of their real-time environmental effects.** APSC must submit an amendment to the VMT plan that describes those protocols, how they will be implemented during a response, and demonstrate that the resources can be secured either through in-house capabilities or via contract, see Condition of Approval 5. [Emphasis added].

APSC's proposed amendment includes changes to the dispersant use section (Volume 1, Part 1, Section 1.7) and non-mechanical response section (Volume 1, Part 3, Section 3.7) of the plan. The proposed amendment references "Annex F of the Unified Plan" which should be appropriately referenced as Annex F, Appendix I: Alaska Regional Response Team Dispersant Use Plan for Alaska as part of the *Alaska Federal/State Preparedness Plan for Response to Oil and Hazardous Substance Discharges and Releases* ("Unified Plan"). Annex F, Appendix I guides dispersant use authorization in Alaska's marine waters including Prince William Sound. The amendment also references NOAA's Special Monitoring of Applied Response Technologies (SMART) protocols and visual observations to monitor the effectiveness of non-mechanical response options.

PWSRCAC finds the proposed changes to these sections do not fully address the requirements of COA 5 for the following reasons:

- The reference and link to Annex F of the Unified Plan have been added to the VMT C-Plan. However, PWSRCAC does not find Annex F provides all the information required by ADEC in COA 5. Specifically, Annex F does not include "specific mechanisms to assess the environmental consequences or provisions for continuous monitoring of its environmental effects" and "protocols for environmental monitoring." Annex F, Appendix I provides for limited pre-application environmental assessment and briefly notes the need for continuous monitoring after dispersants are applied, but fails to adequately address the need for protocols to assess environmental effects before, during, or after dispersant use.
- NOAA's Special Monitoring of Applied Response Technologies (SMART) protocols are designed to evaluate dispersant effectiveness and do not address the information requested in COA 5. SMART does not include specific instruction on what steps should be taken to assess environmental consequences or environmental effects.



- The VMT C-Plan references NOAA’s Natural Resource Damage Assessment (NRDA) method, but this method does not satisfy the requirements of COA 5. NRDA is a long term assessment and monitoring approach, not a real-time assessment of environmental consequences or environmental effects.
- This amendment does not provide monitoring and real-time assessment of environmental effects of the nonmechanical response options proposed in the VMT plan.
- This amendment does not demonstrate that APSC has the personnel, equipment, or expertise to carry out the required nonmechanical assessment and monitoring work, or clearly explain which contractor would perform this work and provide sufficient information to show that the contractor has this expertise and capability. This issue was raised during the last C-Plan renewal as ADEC was unable to verify in an August 28, 2014 telephone call that APSC’s contractor had the expertise or equipment to complete this work.

PWSRCAC is also concerned that APSC’s proposed changes to the VMT C-Plan to meet COA 5 were not discussed in the VMT Coordination Workgroup prior to submission of this amendment. One of the primary purposes of the VMT Coordination Workgroup is to provide an open forum for communication and discussion of topics. The proposed amendment to meet COA 5 was not discussed with the workgroup, thus reducing the effectiveness of the workgroup process and resulting in an amendment not supported by PWSRCAC.

**PWSRCAC recommends the VMT C-Plan be amended to meet the requirements of Condition of Approval No. 5 by addressing the inadequacies described above.**

PWSRCAC developed a set of protocols for Prince William Sound entitled *Prince William Sound Dispersants Monitoring Protocol: Implementation and Enhancement of SMART (Special Monitoring of Applied Response Technologies)* dated July 2016. This set of environmental monitoring protocols for Prince William Sound was developed for use in the immediate aftermath of non-mechanical response technology application. Developed in consultation with regulatory stakeholders and independent oil spill response experts, these protocols provide improved monitoring guidelines, including a biological monitoring component, to fit within the response framework of the Dispersant Use Plan for Alaska and the federal SMART protocols.

PWSRCAC presented these draft protocols to the VMT C-Plan Coordination Workgroup in August 2016 for consideration in helping APSC meet the requirements of COA 5. The final document was transmitted to APSC, USCG, EPA, and the Alaska Regional Response Team on December 5, 2016. PWSRCAC requested APSC consider incorporating the protocols into the VMT C-Plan to meet the requirements of COA 5.

These protocols were specifically written for PWS responders to use during an actual event. The intent is to have a PWS-specific protocol that fits seamlessly into the PWS responder’s work process, while providing responders with the ability to deal with environmental and biological monitoring before and after dispersant application.

The core purpose of the PWSRCAC’s report is to outline “a dispersants monitoring protocol that builds on the SMART protocol” and “specifies additional pre- and post-spill monitoring activities to complement field testing during a dispersant application.” The content of PWSRCAC’s report directly addresses the non-mechanical response monitoring inadequacies identified in ADEC’s November 2014 C-Plan Final Findings Document and requirements of COA 5. Inclusion of the *Prince William Sound Dispersants Monitoring Protocol: Implementation and Enhancement of SMART (Special Monitoring of Applied Response*

*Technologies*) would specifically address the first requirements of COA 5 which are “to develop protocols to assess potential environmental effects of the nonmechanical response” and to “demonstrate resources to conduct the required assessment and monitoring.”

**PWSRCAC requests the VMT C-Plan be amended to incorporate the *Prince William Sound Dispersants Monitoring Protocol: Implementation and Enhancement of SMART (Special Monitoring of Applied Response Technologies)* by reference or provide an equivalent site-specific plan.**

### 3. Volume 1, Part 1, Section 1.7, Dispersant Use

It remains PWSRCAC’s position that dispersants should not be included in the VMT C-Plan as a non-mechanical response option because dispersants can adversely impact the health of marine resources that stakeholders depend on for their food, culture, and livelihoods. PWSRCAC’s position on dispersants is:

*After years of observing dispersant trials, dispersant effectiveness monitoring, advising and sponsoring independent research regarding chemical dispersant use, it is the position of the Prince William Sound Regional Citizens’ Advisory Council (the Council) that dispersants should not be used on Alaska North Slope crude oil spills in the waters of our region. Until such time as chemical dispersant effectiveness is demonstrated in our region and shown to minimize adverse effects on the environment, the Council does not support dispersant use as an oil spill response option. Mechanical recovery and containment of crude oil spilled at sea should remain the primary methodology employed in our region.<sup>2</sup>*

Among PWSRCAC’s concerns is the scarcity of reliable, peer-reviewed, scientific data about the efficacy, toxicity, and persistence of dispersants and dispersed oil in Prince William Sound/Gulf of Alaska conditions. Conclusive demonstrations of chemical dispersant efficacy in the cold waters of Prince William Sound have not been completed. It is PWSRCAC’s opinion that dispersant use in Port Valdez is generally not appropriate for the following reasons:

- Low salinity (freshwater lensing also significantly lowers the salinity of the surface waters where any potential dispersants may be applied thus interfering with their effectiveness);
- Lack of mixing (residence time for water in the Port basin is very long and it takes a great deal of time for the water in the Port to turnover or exchange and strong seasonal freshwater lensing effect in the Port interferes with the successful mixing of any potential dispersants use for much of the year);
- Proximity to humans that live, work, and recreate in Port Valdez; and,
- A host of environmentally sensitive sites and species, and economically important resources (e.g., commercial fisheries) that would be disproportionately harmed by exposure to sub-surface dispersed oil.

Additionally, PWSRCAC questions dispersant use based upon recent photo enhanced toxicity concerns and other outstanding questions regarding long-term effects. Photo enhanced toxicity occurs when a chemical becomes more toxic if exposed to the ultraviolet light present in natural sunlight.

<sup>2</sup> PWSRCAC, Dispersants Use Position Statement, May 3, 2006.

**PWSRCAC recommends dispersant use application be prohibited in Port Valdez until such time that scientific information can be provided that clearly demonstrates that chemical dispersants can be used safely and effectively, and are proven to present a net environmental benefit to the marine resources that stakeholders depend on for their food, culture, and livelihoods, relative to other oil spill response options including mechanical recovery.**

While PWSRCAC assumes that APSC's proposed revisions to Volume 1, Part 1, Section 1, Dispersant Use are intended to meet the first part of COA 5 (requiring protocols for environmental monitoring and assessment), as explained above, it is PWSRCAC's opinion that the proposed changes do not meet the requirements of COA 5. This proposed revision provides no method or protocol to assess potential or real-time environmental effects of non-mechanical response.

Annex F in the Unified Plan, referenced by APSC, currently guides dispersant use authorization in Alaska's marine waters, including Prince William Sound and the marine waters adjacent to the VMT where a spill from the VMT could spread. Annex F eliminates pre-approval zones for all state waters including Port Valdez. While this does not eliminate the ability to obtain dispersant use permission for use in Port Valdez, it requires substantial consultation and scientific inquiry prior to dispersant use approval.

Even though PWSRCAC strongly opposes dispersant use in Port Valdez, PWSRCAC recognizes that there is a process in place to facilitate the use of dispersants in our region. It is critical that substantial consultation, scientific inquiry and comprehensive monitoring protocols are in place to guide dispersant use.

#### **4. Volume 1, Part 3, Section 3.9, Response Training**

APSC's proposed amendment to Volume 1, Part 3, Section 3.9, Response Training proposes to delete all the Field Responder Training course descriptions and goals for each training module that is not supported by PWSRCAC.

The following historical background is included to provide an understanding that oil spill response training has been an important issue in the VMT C-Plan in the past.

- On June 18, 2004, ADEC issued an Out of Compliance Notification to APSC for response training in the VMT C-Plan. A review by ADEC in February 2004 found that APSC's training program was different from what was contained in the plan. The Out of Compliance Notification required an amendment to the plan that provided an accurate detailed description of training programs in place for discharge response personnel.
- APSC's January 31, 2007 Government Letter 11094 explained that APSC developed a comprehensive training program through a multi-stakeholder process. APSC wrote: "The Oil Spill Response Training Management Program manual is submitted as a supporting document for your review and reference. This amendment and program were completed after a protracted period and working the process through a workgroup including APSC personnel, the Alaska Department of Environmental Conservation (ADEC) and the Prince William Sound (PWS) Regional Citizens' Advisory Council (RCAC). An APSC project team was ultimately formed and worked the project through the compliance schedule outline in Part 2, Section 2.7.5.3; regulators and stakeholders were regularly informed of project status. Throughout the project, the input and ideas of all parties were carefully evaluated, considered, and incorporated as appropriate. **APSC believes that the resulting**

**products are an improvement of its oil spill response training, documentation, and management processes.** [Emphasis added.]

- APSC’s Oil Spill Response Training Management Program, AMS-011-01 (210 pages) was incorporated into the VMT C-Plan in 2007 to meet the commitment in the Compliance Schedule and Waivers Section 2.7 of the VMT C-Plan.
- In 2014, despite PWSRCAC’s opposition, ADEC approved a revision to the VMT Response Training Program that removed reference to the detailed APSC’s Oil Spill Response Training Management Program, AMS-011-01. ADEC had previously required this level of detail in 2007 and reversed its position in 2014, allowing APSC to delete most of response training program details.<sup>3</sup>
- Course descriptions were retained in the response training section in the 2014 VMT C-Plan. APSC now proposes to delete this last remnant of its response training program that was once promoted to be an **“improvement of its oil spill response training, documentation, and management processes.”**
- An important improvement to the plan resulting from multi-stakeholder efforts has been reversed in a few short years, and PWSRCAC does not understand this reversal of position.
- If this proposed amendment is approved, the majority of the response training program information will be eliminated from the plan quality.
- Based on past work on improvements to response training information in the plan, PWSRCAC does not support removal of the information as proposed.

PWSRCAC does not support the proposed amendment as it:

- Does not include any justification for deleting 21 pages of the Field Responder Training course descriptions and goals for each training module from the existing, approved VMT C-Plan.
- Continues to erode the quality of the response training program, which is inconsistent with the regulatory standard of “a detailed description of the training programs for discharge response personnel” (18 AAC 75.425(e)(3)(I)).

PWSRCAC is also concerned that the proposed response training amendment was not presented to the VMT C-Plan Coordination Workgroup for discussion prior to submission. The proposed amendment was not discussed with the workgroup, again reducing the effectiveness of the workgroup and resulting in an amendment not supported by PWSRCAC.

PWSRCAC maintains its position that the level of detail required by ADEC in 2007 to meet the VMT C-Plan Condition of Approval to improve the VMT Response Training Program should be met today, and the standard 10 years later should not be lowered. The plan should be continuously improved, not degraded.

**PWSRCAC recommends that the existing Response Training Program be retained without revision.**

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<sup>3</sup> ADEC VMT Plan Findings Document, Issue No. 17: Response Training, November 21, 2014.

**5. Volume 3, Section 9.0.2.1, SGH and DF SA Protection Mobilization Decision Matrix**

APSC's proposed amendment to Volume 3, Section 9.0.2.1 deletes the existing, approved Solomon Gulch Hatchery (SGH) and Valdez Duck Flats (DF) Sensitive Area Protection Mobilization Decision Matrix (the Matrix) and replaces it with a completely new table that will result in less protection. PWSRCAC does not support this proposed change.

APSC proposes changes to the Matrix that will make it so difficult to ever trigger the protection threshold (even in a very large spill), that there will be few situations where SGH and DF protection would actually be triggered. PWSRCAC is concerned that by modifying the Matrix developed in 1997 by a multi-stakeholder working group (including state and federal trustee agencies) a weakening of a long-standing protection strategy will be reduced without justification.

PWSRCAC recommends that the protection tactics for the SGH and DF be initiated immediately regardless of the initial weather and sea conditions. Those conditions can rapidly change, and it takes a substantial amount of time to deploy those tactics. The environmental and economic value of these two local resources are too high to risk hydrocarbon contamination. Sensitive area protection tactics should be performed simultaneously while other personnel and equipment are working on source control and other prudent response efforts. APSC should have sufficient personnel and resources to clean up the spilled oil and simultaneously protect sensitive areas in Port Valdez.

PWSRCAC provides the following historical background for an understanding that this is an important issue to commercial fishermen, subsistence users, local residents, and the ecosystem.

- The Matrix was created many years ago based on years of actual experience and oil spills. PWSRCAC does not recommend unraveling the progress made previously.
- An important lesson learned from the May 1994 *Eastern Lion* spill was that a spill of 10 gallons or more should automatically (combined with other factors in the 1997 matrix) trigger mobilization of SGH and DH protection. APSC's threshold for mobilizing SGH and DH protection was too high in 1994, and these sensitive areas were not adequately or timely protected. Oil from this spill reached the net pens in 18 hours.
- A June 6, 1994, PWSRCAC letter to APSC summarized the lessons learned from the May 1994 *Eastern Lion* spill. PWSRCAC recommended a lower threshold for mobilizing SGH and DH protection, and explained the adverse consequences of delayed protection. PWSRCAC wrote:  
*The Hatchery Plan states on page 506-2 "Protection of fish hatcheries exposed to the threat of a spill in Prince William Sound is one of the highest priorities in the near shore response strategy. Oil got into the net pens at Solomon Gulch Hatchery, as the main boom around the hatchery was not placed until after oil had reached the net pens. If this had been a bigger spill or it had occurred under different tide or wind conditions, this could have been disastrous."*
- PWSRCAC also recommended automatic hatchery booming for any release of oil in Port Valdez based on lessons learned in the October 20-21, 1992 oil spill drill in Port Valdez. Hatchery personnel were concerned that if oil impregnated the shoreline and the brood lagoon, the oil may leech out the soil over time and damage the fisheries resource.
- PWSRCAC recommended automatic Duck Flats protection because this area is recognized as one of the most environmentally sensitive areas in Port Valdez.

- Actual spill and drill experience and lessons learned were examined by a multi-stakeholder workgroup including state and federal trustee agencies. This information was used to develop the currently approved SGH and DF Sensitive Area Protection Mobilization Decision Matrix as a condition of plan approval in 1997.
- The existing Matrix was approved by state and federal agencies, and has been in place and an effective tool for almost 20 years.
- The existing Matrix provides criteria and assessment points for use by the Initial Incident Commander at the start of a spill, and for Incident Command to continue to use throughout the early part of a spill response, to ensure SGH and DF sensitive area protection remains in the forefront of response decision making for spills in Port Valdez.
- The existing Matrix takes into account the importance of protecting the SGH and DF sensitive areas, in a number of situations, even if the oil spill trajectory is currently moving away from these sites. It takes substantial time (approximately 10-12 hours) to deploy protection at these sensitive areas, and there may not be time to deploy protection when weather, tide and current conditions rapidly change the direction of the spilled oil.
- The existing Matrix provides a conservative approach to protecting the SGH and DF sensitive areas, by requiring protection deployment for large spills, uncontained oil, and when currents, winds, waves, and visibility all adversely impact response effectiveness.

PWSRCAC does not support APSC's proposed amendment for the following reasons:

- APSC's proposed changes to the Matrix were presented to the VMT C-Plan Coordination Workgroup, and no consensus was reached between workgroup members APSC, federal and state agencies, and PWSRCAC. PWSRCAC did not agree with the proposed changes.
- APSC's proposed changes do not provide justification for deleting an effective tool and replacing it with an untested tool.
- APSC's proposed changes do not take into account the lessons learned during prior spills (e.g., *Eastern Lion*), oil spill drills and exercises in Port Valdez, and exercises that show how long it takes to actually mobilize and deploy SGH and DF protection.
- APSC's proposed changes to the scoring process and threshold for determining when to protect the SGH and DF would delay or impede protection of these sensitive areas, even in large oil spill events.
- Overall, APSC proposes a less conservative protection plan, assuming the oil spill trajectory will not rapidly change and that there will be time to deploy protection if it does.
- Currently, SGH and DF protection is deployed simultaneous to oil recovery operations if the Matrix score equals or exceeds 25. Therefore, APSC must have the capability to both recover spilled oil and protect SGH and DF. Since APSC is required to have this capability, PWSRCAC does not understand why equipment would not be deployed. No one benefits from this risky strategy.
- APSC proposes to amend the trigger point for protection to a lower score of 12, but has eliminated a number of categories where points can be assigned, and has reduced the value of each category substantially. The end result shows it would be much more difficult to reach a score of 12 to trigger the requirement to protect the SGH and DF sites.

- The existing Matrix assigns high point values to large, uncontained spills, and assigns high point values to more challenging response conditions (where the oil is moving towards the site or the weather is unfavorable for effective response).
  - For example, using the existing Matrix, a score of 25 would be computed for an uncontained spill (10 points) of 35 barrels or more (10 points), low visibility (2 points), and high winds (3 points).
  - By comparison, using APSC's proposed Matrix, the same uncontained spill of 35 barrels would only be assigned 5 points, 0 for reduced visibility (this category was removed by APSC), and only 2 points for high winds. Therefore, the score would result in no SGH or DF protection deployment at all.
  - In sum, APSC has revised the Matrix so that a lower score is computed at a threshold that would not trigger protection for the same physical circumstances that would have triggered protection under the existing Matrix.

A detailed comparison of APSC's proposed Matrix change is provided below:

- All points for wave height were deleted. Yet, it is well understood that increasing wave height reduces oil recovery response effectiveness.
- All points for visibility impacts were deleted. Yet, it is well understood that reduced visibility adversely impacts oil recovery response effectiveness.
- All points for wind direction coming from the east or north were deleted. The revised Matrix assumes there will be sufficient time to protect the SGH and DF as long as oil is moving away from those sites. Yet, it can take up to 12 hours to deploy these sites, and experience shows Port Valdez weather can change rapidly and leave responders with insufficient time to deploy protection equipment.
- All points for current direction were deleted. Yet, it is well understood that current direction will influence the path of spilled oil. PWSRCAC understands that it can be difficult for an onshore responder to estimate the current direction from the shore, however, a worst-case current direction (to the east) should be used as the default until improved data is available.
- The revised Matrix proposes to only trigger SGH and DF protection when a point total of 12 is reached, compared to 25 points in the existing Matrix (a 48% reduction). The number of categories where points can be assigned has been decreased, as well as the maximum point total for each impact category.
- The proposed changes reduce the amount of points assigned to spill magnitude. The existing Matrix assigns 10 points to unknown spill volumes, spills of 10-35 barrels, and spills with a high rate of release. The proposed revision only assigns 2 points to a spill of 10-35 barrels, and assigns 0 points to spills of unknown spill volumes or high rates of release. To obtain 4 points in the new Matrix, the spill must be at least 10,000 barrels.
- To further illustrate PWSRCAC's concerns, the example below shows how an oil spill in Port Valdez (59,000 barrels, a Scenario 4 sized spill) would not trigger protection under the proposed Matrix.
  - Spill Magnitude: 59,000-barrel spill (4 points)
  - Source Control: Secured (0 points)
  - Uncontained (4 points)
  - Tide Cycle Ebb (0 points)
  - Wind Velocity 30 knots (2 points)
  - Wind Direction from east (0 points)
  - Wave Height 2 ft. (0 points)

The point total for this scenario would only be 10 points meaning no action would be taken to protect SGH or the DF (because the score is less than 12) even when 59,000 barrels of oil were floating on the water in Port Valdez.

- By comparison, the existing Matrix would immediately instruct responders to protect the SGH and DF sites:
  - Spill Magnitude: 59,000-barrel spill (10 points)
  - Source Control: Secured (0 points)
  - Uncontained (10 points)
  - Tide Cycle Ebb (0 points)
  - Wind Velocity 30 knots (3 points)
  - Wind Direction from east (1 point)
  - Wave Height 2 ft. (2 points)

The point total for this scenario would be 26 points meaning action would be taken to protect SGH or the DF.

It is important to note that the proposed Matrix revision is so flawed that there are circumstances where a large spill from the VMT to Port Valdez close to SGH and DF would not trigger any protection. For example, using the proposed Matrix and the VMT Response Planning Standard (RPS) spill size of 155,000 barrels to water (VMT Scenario 5 Spill Volume) would result in the following points assigned:

- Spill Magnitude: 155,000 -barrel spill (4 points)
- Source Control: Secured (0 points)
- Uncontained (4 points)
- Tide Cycle Ebb (0 points)
- Wind Velocity 30 knots (2 points)
- Wind Direction from east (0 points)
- Wave Height 2' (0 points)

The point total for this scenario would only be 10 points meaning take no action would be taken to protect SGH or the DF (because the score is less than 12) even when 155,000 barrels of oil were floating on the water in Port Valdez.

By comparison, the existing Matrix would immediately instruct responders to protect the SGH and DF sites in response to a large 155,000-barrel spill:

- Spill Magnitude: 155,000-barrel spill (10 points)
- Source Control: Secured (0 points)
- Uncontained (10 points)
- Tide Cycle Ebb (0 points)
- Wind Velocity 30 knots (3 points)
- Wind Direction from east (1 point)
- Wave Height 2' (2 points)

The point total for this scenario would tally to 26 points meaning, APSC would take action to protect SGH or the DF.

**PWSRCAC recommends the existing SGH and DF Protection Matrix be retained without revision.**



**6. Volume 2, Section 4, Scenario 4 59,000-barrel spill to Open Water**

APSC's proposed amendment to Volume 2, Section 4 includes a major amendment to Scenario 4. APSC's proposed changes were presented and discussed with the VMT C-Plan Coordination Workgroup. PWSRCAC provided both oral and written comment on the proposed amendment to APSC through the workgroup process. No consensus was reached between APSC, federal and state agencies and PWSRCAC (the workgroup members).

PWSRCAC has five main concerns with the proposed amendment:

1. The scenario is a large 59,000-barrel (2.5 million gallon) crude oil spill into Port Valdez, but would not require any protection of the SGH or DF based on changes to Volume 3, Section 9.0.2.1, SGH and DF Sensitive Area Protection Mobilization Decision Matrix. As explained above, deploying personnel and equipment using the proposed matrix revision would not occur. PWSRCAC does not support changes to a 20-year-old matrix that results in less protection to environmentally and economically sensitive resources. Under the proposed changes, oil would need to be heading directly to the SGH and DF before protection resources would be assigned, and by that time it may be too late to deploy protection (which could take 10-12 hours or more) before those areas are oiled.
2. The proposed amendment raises serious concerns with the Valdez Fisheries Development Association Inc. and may adversely impact commercial fishermen in our region. In a December 11, 2016 letter to ADEC, the Valdez Fisheries Development Association Inc. (VFDA), Solomon Gulch Hatchery opposed changes to Scenario 4 that would delay SGH protection because there is insufficient time to deploy protection if weather conditions change, and because the economic impact of oil reaching the hatchery (only 3 nautical miles away) would be devastating. VFDA requested "the previous commitment for swift protection of the hatchery" be retained. PWSRCAC fully agrees with VFDA's comments. A copy of VFDA's December 11, 2016 letter to ADEC is attached.
3. The proposed response plan is not consistent with the actions APSC would take, or has taken, in prior oil spill response exercises for this size spill and spill location. APSC has a large amount of open water oil spill response equipment available for deployment in Port Valdez. Scenario 4 proposes to use a small portion of that available equipment, minimizing the amount, type and pace of equipment brought to the spill location.
4. Existing Scenario 4, Table 4.3.4 (Response Planning Standard Calculation and Assumption for On Water Recovery Capacity) has been deleted, without replacement.
5. The Scenario lacks a detailed waste management plan and detailed waste management calculations to show the different waste volumes and that ASPC has the resources to handle all waste streams.

**PWSRCAC recommends that Scenario 4 be revised as follows:**

- (1) Include deployment of SGH and DF protection early in the spill. For any large spill from the VMT, such as that described in Scenario 4, the protection tactics of the SGH and DF should be initiated immediately regardless of the initial weather and sea conditions because in reality those can change rapidly, it takes a substantial amount of time to deploy those tactics, and the environmental and economic value of those two local resources are too high**

**to risk contamination. Those tactics should be performed simultaneously while other personnel and equipment is working on source control and other prudent response efforts;**

- (2) A rapid response fleet be developed to provide sensitive area protection in the Port Valdez vicinity;**
- (3) The scenario optimize use of existing on water recovery assets consistent with the approach APSC would actually take during the spill;**
- (4) Table 4.3.4 be revised to match the changes in the scenario and be retained; and**
- (5) A detailed waste management plan be included so the type and volume of each waste stream is clear, and that the scenario clearly explains the personnel, equipment, and logistical resources and experts assigned to handling each waste stream.**

area or an area of public concern that would likely be impacted if a discharge occurs, and that this equipment and personnel will be deployed and maintained on a time schedule that will protect those areas before oil reaches them according to the predicted oil trajectories for an oil discharge of the volumes established under 18 AAC 75.430 – 18 AAC 75.442; areas identified in the plan must include areas added by the Department as a condition of plan approval.”

AS 46.04.030(e) states that the Department “...may attach reasonable terms and conditions to its approval or modification of a contingency plan that the department determines are necessary to ensure that the applicant for a contingency plan has access to sufficient resources to protect environmentally sensitive areas....”

### **Response to Comments and Basis for Decision**

PWS RCAC requested clarification regarding deployment times and verification that the protection strategies for the Valdez Duck Flats and Solomon Gulch Hatchery reflected the protection enhancements demonstrated in an unannounced February 19, 2002 exercise. Enhanced protection strategies were developed by Alyeska and refined through discussions with agency representatives and stakeholders in the VMT C-Plan Coordination Group during the last plan renewal cycle. The strategies were subsequently tested by the Department in July 2001, re-worked, and tested again in February 2002. Following the test in February 2002, Alyeska developed plan amendments that the Department determined were sufficient for public review as part of the current renewal application. The plan submitted for public review did not contain all of the deployment times that had been validated in February 2002 drill. However, Alyeska’s RFAI response corrected the identified discrepancies and added language specifying that the deployments would be conducted simultaneously. In order to meet regulatory requirements for protection of environmentally sensitive areas before oil reaches them, Alyeska must be capable of deploying the Duck Flats and Hatchery protective strategies simultaneously while maintaining a full response to the leading edge of an RPS volume oil spill.

PWS RCAC also commented that the Department should require a plan amendment stating that Alyeska would commit to implementing Prince William Sound (PWS) Geographic Response Strategies (GRSs) for any sites threatened by a VMT release and that the GRS sites outside of Port Valdez would be included in the prioritization process for protection of environmentally sensitive areas. The RPS Scenario does not plan for oil to exit Port Valdez as a result of an RPS volume discharge, and Alyeska is therefore not required to specifically plan for response outside of the RPS volume impact area. Nonetheless, the Department recognizes that spilled oil could impact PWS beyond Port Valdez. The PWS GRSs are in the process of being prepared for incorporation into the next revision of the PWS Subarea Plan. Once housed there, they will be part of the overall response plan for the region. Additionally, the Department, Alyeska, and local citizens are familiar with the GRSs developed for PWS and have participated in the site selection and testing of the strategies developed. Until the GRSs are incorporated into the Subarea Plan, this familiarization will ensure that GRS sites are properly considered in the event of a discharge that would impact marine and nearshore areas outside of Port Valdez.

Tom Lakosh commented that there needs to be immediately deployable pre-positioned response equipment at sensitive areas in Port Valdez such as rapid boom deployment skids with mooring and guide lines that can quickly attach to pre-positioned off-shore anchors. However, Mr.

SOA006117

# EXHIBIT 9

PWSRCAC Report on Eastern Lion Spill  
(May 31, 1994)



Eastern Lion Oil Spill

May 21, 1994

Preliminary Report  
prepared for  
Regional Citizens' Advisory Council  
Oil Spill Prevention and Response Committee  
by

Tim Jones  
May 31, 1994

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## EXECUTIVE SUMMARY

Around 9 p.m. Saturday, May 21, 1994, a crewman looked overboard from the Tank Vessel Eastern Lion at Berth 5 of the Alyeska Marine Terminal and saw oil in the water near the ship. The Lion was on charter to British Petroleum. It has a capacity of more than 2 million barrels and had approximately 829,000 barrels in tanks at the time of the report. The ship was just about to resume loading after an interruption of about three hours. The spill was assessed immediately at 50 gallons. Terminal oil spill crews responded with Marco and JBF skimmers and the Valdez Star was mobilized. The terminal notified agencies and then SERVVS at about 9:30. SERVVS began mobilizing its equipment and personnel including four fishing vessels called out at 10:15 and another four about an hour later. Eventually four of the escort emergency response vessels also were brought to the scene. The 12,000 barrel storage barge Allison Creek mobilized.

Oil escaped the primary boom and a second one taken from Berth 3 was placed around the ship but oil escaped that one as well. A section of this boom at the bow of the ship had been placed almost perpendicular to the strong tidal current and oil was entraining under it. Once outside the boom, the oil quickly spread out into sheens and pools and windrows along tidal current lines. Deflection booms were set up at Saw Island, a small island adjacent to the berth to the Southwest. Another was placed behind the ship off the berth. The terminal skimmers worked inside the ship's booms. Two barges with transrec 350 skimmers on board were standing by in the port but not used.

Collection of the oil that escaped was attempted with the ERVs and fishing vessels using U configured Kepner and absorbent booms and some Vikoma Ocean boom. The Valdez Star worked on windrows and the captain directed other vessels to oil missed by the Star.

Three out of four of the ERVs attempted making J formation with their booms and placing a Sea Skimmer 50 in the apex. However, for the most part two of the three towed their booms with large bellies leaving the skimmer 100 feet or more from the collected oil.

No attempt was observed to use strategies and techniques developed for the Prince William Sound Near Shore plan, nor was any of the near shore equipment observed in use. One vessel, the landing craft Krystal Sea with some near shore equipment aboard used its Desmi skimmer for a time in the containment boom around the ship. This vessel later was called to lighten the small skimmers working near the ship.

A helicopter made a survey of the spill area around 5 a.m. and that observation raised the estimated spill amount to 200 barrels. Because the oil separated so quickly once it was outside the boom and because the amount was so small it won't show up on tank ullages, the actual size of the spill probably won't be known.

The spill occurred during the period of strong tides and the extreme of the range in Port Valdez. High built to 14.3 feet Wednesday with a low of -3.6.

SERVVS crews closed a boom around net pens at Solomon Gulch hatchery east of the terminal in the early morning hours, however did not place a main exclusion boom that was available and designed to protect waters adjacent to the hatchery. At the time there were 900,000 silver salmon smolts present in one pen.

Eight fishing vessels joined the operation early with 17 more coming. Through the day the response

effort consisted of the small skimmers at the ship, the Valdez Star, a 123-foot dynamic incline skimmer, skimming on oil sheens, and the ERVs attempting J booms with Sea Skimmer 50s following sheens. Only one of the ERVs held the boom in any kind of configuration that consistently would allow the skimmer to work efficiently. Fishing vessels were used to hold deflection booms and U booms collecting oil or in conjunction with the ERV efforts. Later absorbent material was placed in the booms and absorbent appeared to be the most effective way to collect the thin sheens. These efforts were aided by a helicopter spotting sheens and adjusting booms. Only one was used when it might have been helpful to have two or three, one for each task force.

At about 2 p.m. the helicopter directing operations spotted oil approaching the hatchery and called for boats with absorbent and other booms to come to the area to protect it. At 3:11 p.m. the oil was observed inside the net pen with the silver salmon. At this time the main exclusion boom around the hatchery still had not been placed. The original boom around the net pens presented a face almost perpendicular to the approaching oil which also could have led to entrainment. Oil appeared in the net pen as two sheens approximately 3 feet in diameter. A salinity barrier on the net pens probably prevented more oil from entering the pens. No mortality was observed in the fish and these sheens dissipated rapidly, according to the hatchery manager.

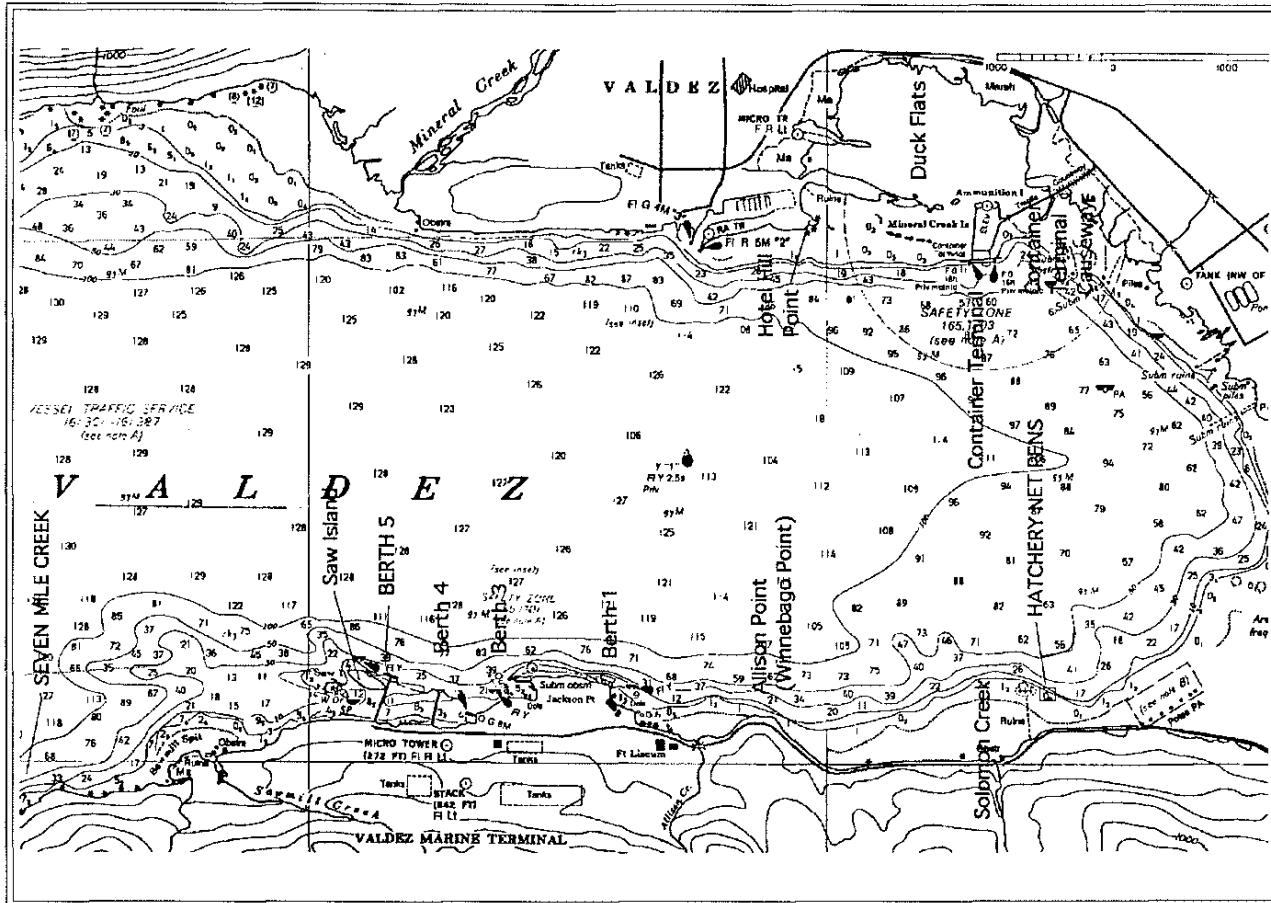
By Monday morning oil had reached the area of the Valdez Container Dock, 3.3 miles northeast of the ship and was approaching land to the East of the dock at the approaches to the Valdez Duck Flats. No booming was evident anywhere near the Duck Flats which have been identified as sensitive habitat. Oil had reached near the shoreline on the Port Valdez beach south of the Valdez Small Boat Harbor. It wasn't until sometime during the day Tuesday that any kind of effective exclusion boom was placed at the Duck Flats. Even so, strong currents running on and off the flats limited the effectiveness of the boom. Oil also had been found as far west as Andersen Bay at the west end of Port Valdez and in the Mineral Creek area on the north side west of town.

Over the next two days boom boats continued to chase slicks of oil, some of which came from what they called "burps" that continued to rise from under the ship. These were believed to be from oil trapped under the hull and released as the ship's attitude changed during lightering and deballasting. Divers used compressed air to push oil out from under the hull and this also released some oil. Several times, the containment boom around the ship was observed flat against the hull and this would have allowed oil escaping from the bottom to rise outside the boom.

British Petroleum personnel began arriving early Sunday morning and by Monday afternoon 40 persons had come to Valdez. Many of these were working position by position with their Alyeska counterparts and Tuesday afternoon BP assumed management of the spill response.

Cleanup efforts continued through the week mostly with the use of absorbents and the Valdez Star outside the ship booms and JBF and Marcos inside. The ship sailed around 10 p.m. Friday with orders for Portland, Oregon, but BP said pending ABS approval it might be sent to a foreign shipyard. On the way out of Port Valdez, the ship encountered problems with its gyro compass and this led to an overnight at the Knowles Head anchorage until repairs were effected.





## SUNDAY

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**EASTERN LION:** 269,164 deadweight tons; Capacity 2,088,672 barrels; Length 1,076; beam, 168. Cargo at time of spill, approximately 829,000 barrels.

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### SUNDAY MAY 22, 1994

0121 Observer notified by Scott Thompson of RCAC POVTS committee that a spill of 200 to 300 gallons had occurred at the Valdez Marine Terminal. The vessel involved was the Tank Ship Eastern Lion. Spill estimated at 20 barrels. SERVS was mounting a response including fishing vessels. At that time Scott indicated he didn't feel it was that big and to catch up on it in the morning. At this point I turned on the VHF radio and listened to the response traffic. In this time I gathered equipment and put all of the radio and video batteries on chargers. Upon realizing the fishing vessel callout I decided I had better go sooner rather than later and began gathering the rest of my gear.

From radio traffic I learned:

Some oil had escaped from the boom around the ship

Oil was reported between Berth 3 and shore.

A helicopter was scheduled to fly at first light to assess the amount of oil.

Divers were preparing to go down on the ship to ascertain the location of the leak.

0210 Observer arrived at the SERVS duty office.

From the duty officer, learned the following:

Occurred Saturday May 21

1758 The vessel had moored at Berth 5 at 2034 May 20. It had been in the process of deballasting and loading at the same time. At 1758 May 21 it stopped loading but continued deballasting, planning to resume loading at 2100. At this time approximately 829,000 barrels of North Slope Crude had been loaded. About the time the crew was preparing to resume loading a mate looked over the side and saw oil in the boom surrounding the ship.

ADEC was notified a few minutes after 2100.

2130 SERVS was notified by Alyeska OCC.

At this time the terminal skimmers already were under way to the scene and the Valdez Star was under way at 2122. Supervisor Vince Mitchell and SERVS oil spill manager John Baldrige were reporting and they asked that the near shore landing craft Krystal Sea be gotten under way.

2200 ERV Heritage Service was ordered to warm engines and prepare to deploy booms.

2208 The ERV Freedom Service which was returning from an escort and was directed to the scene at Berth 5.

2211 John Baldrige called to advise he was reporting to assess the situation.

2212 Skiff 12 was sent to assist. This is one of the SERVS work skiffs similar to a seine skiff but with a small house.

2221 Heritage Service reported it was under way from Buoy 1.

Four fishing vessels were called out.

**6 Eastern Lion Oil Spill May 21, 1994**

## SUNDAY

- 2227 Krystal Sea reported it was warming engines.
- 2305 Four more fishing vessels were called out.  
All ERVs in the port were ordered to prepare their booms for deployment.
- 2330 U.S. Coast Guard closed the port to traffic and established a 2,000 yard safety zone around Berth 5. The tank vessel Thompson Pass already was at Berth 3.
- 2349 FVs Alba II and Turning Point checked in.
- 2304 Predicted high tide.

### Occurred Sunday May 22:

At 0230 A SERVS crew reportedly was standing by the oil spill equipment containers at Solomon Gulch Hatchery. It was reported this crew had closed a boom that is kept around the hatchery's net pens during the season when fry are present. At this time all pink and chum fry had been released. About 900,000 silver salmon smolts were being held in one net pen.

### OTHER POINTS LEARNED AT THIS TIME:

The 12,000 barrel storage barge Allison Creek had been mobilized but no Transrec barges. There were two in the port at the time plus the near shore barge Energizer which was moored at a buoy less than half a mile from the spill site.

At this time SERVS On-water Commander Tim Corsini was at the duty office. He advised that crews would get going in the morning after an over flight and to get some sleep. Instead observer decided to go to the terminal emergency operations center.

### LEARNED FROM OTHER SOURCES:

The tank vessel Thompson Pass was at berth 3. At the time of the spill report it was preparing to sail. It had been de boomed and tugs were standing by. The ship was told there would be a two-hour delay. The berth boom was taken to the Eastern Lion to be used as a second boom around that ship. At about 2345 the ship was notified the port had been closed.

Dave Cobb, the Valdez fishing vessel administrator, reported he was notified by the city at 1015 and by Rich Long, the SERVS fishing vessel coordinator, about five minutes later. His first call was for four boats. The first of those departed Valdez Small Boat Harbor at 11:02

### MAY 22, 1994 SUNDAY

- 0245 Vessel reported finding a large patch of oil outside the boom right next to the ship.  
The EOC was reported manned and operating.
- 0247 A vessel reported having collected 1,500 gallons of liquid.
- 0319 Driving by the hatchery no one was visible around the connexes for oil spill equipment and in the dark could not ascertain whether or not the pen boom was closed. The second boom that was to run from east of the hatchery to the west side of Solomon Creek had not been deployed. There was an Alyeska vehicle in the parking lot at the hatchery office.
- 0329 From the parking lot at the Terminal Administration Building observed three ERVs with boom deployed

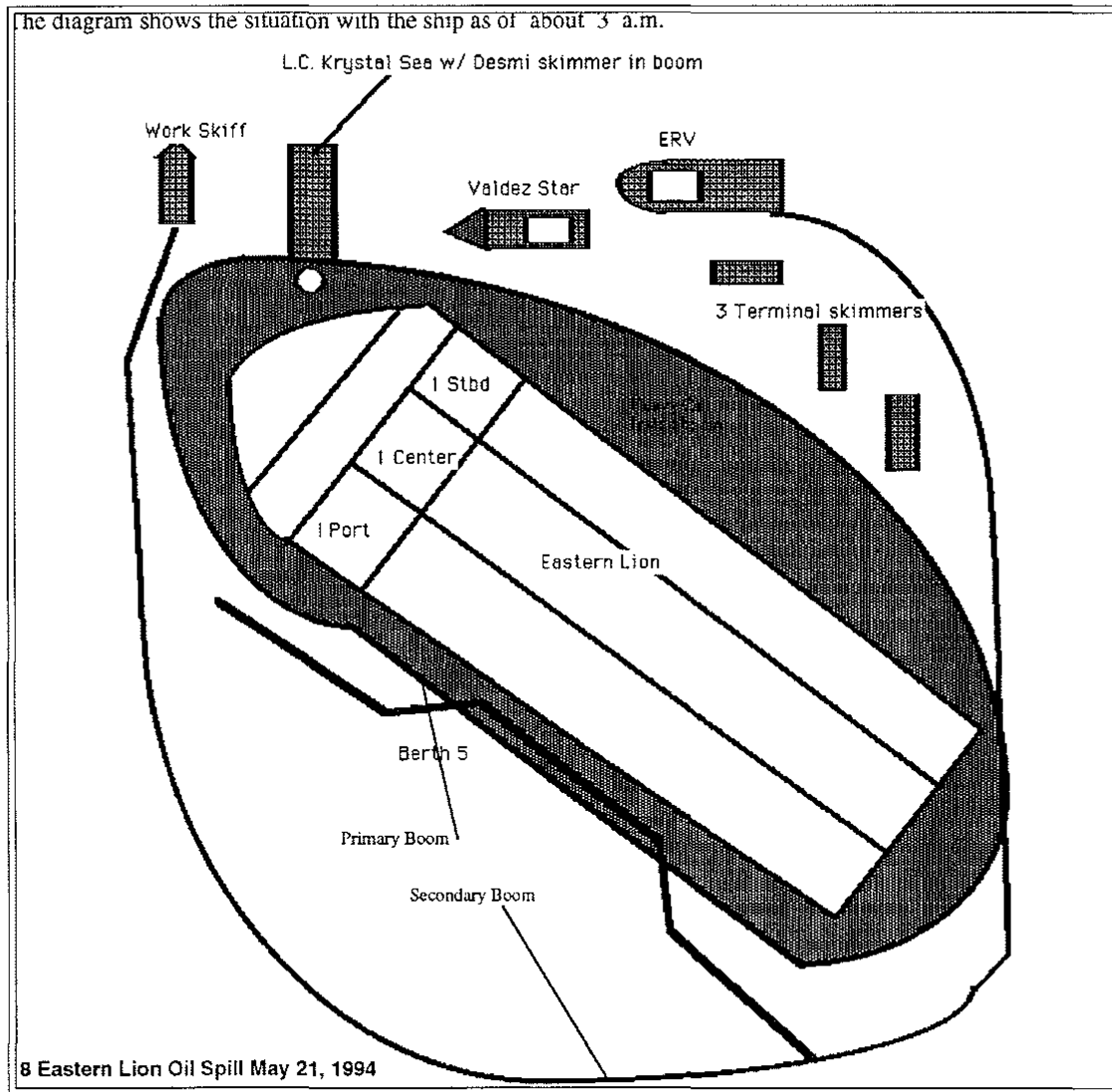
SUNDAY

and several fishing vessels. Identified the following fishing vessels either visually or from radio traffic. Sirocco II, Kristina, Glacier Island, Lady Sandra, Polecat, Evie, Turning Point, Alba II.

The Lady Sandra reported a sheen around it. Asked if it was black or rainbow the captain said there was no rainbow.

0330 Observer arrived at EOC.

It was reported there that at 0300 the size of the spill had been upgraded to 60 barrels with 5 barrels outside the boom. The ship still was leaking and they suspected the number 1 wing tanks. Oil was pumped from the two wing tanks into the center tank (All #1) There are five rows of tanks in the ship. See diagram below.



## SUNDAY

0405 Observer was escorted aboard the Eastern Lion by SERVS oil spill manager John Baldrige. Heavy black oil was visible inside the primary boom around the ship with lighter patches visible within the second boom which at this time had been closed and the Valdez Star had begun skimming west of the ship's bow.

Steve Provant of ADEC was aboard and said there probably was shoreline impact on Saw Island which is a small island adjacent to the berth to the southwest. Mr. Provant also noted there was oil going through both booms at the west end to the port side of the bow. I observed this shortly thereafter and oil indeed was streaming through the boom with the current. This current apparently was more than 1 knot and entraining the oil under the boom.

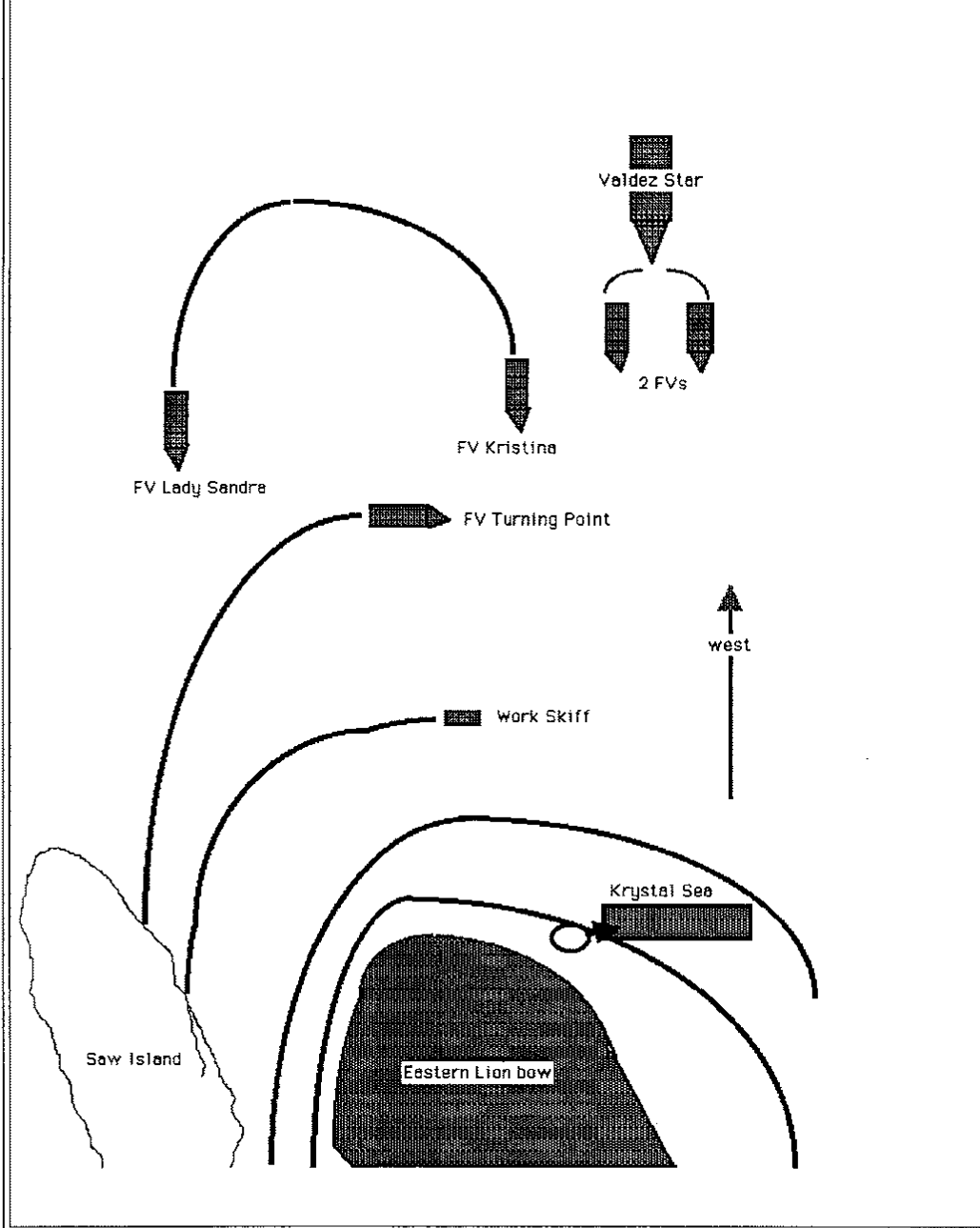
A JBF skimmer had begun unloading its recovered liquids to the Krystal Sea.

Divers reported having trouble locating the leak because of the amount of oil in the water.

The Krystal Sea had deployed a Desmi skimmer inside the primary boom and was skimming. It was reported the vessel crew first tried vertical rope mop skimmer but that it needed to be primed and didn't work that well. Then they went to the Desmi.

0411 The Krystal Sea took oil from other skimmers as well and would be full in approximately one hour. John Baldrige said he intended to set up a full Incident Command System structure.

0430 This diagram shows the booming and skimming configuration off the bow of the ship at this time:



10 Eastern Lion Oil Spill May 21, 1994

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0500 Observer's presence on ship was questioned by Alyeska duty officer and had to leave. At this time there was heavy brown oil between the primary booms and some outside the outer boom on the shore side. Most of the booming and skimming activity was ahead of the ship to the west with two pairs of fishing vessels and booms working between berths 3 and 4.

0515 IC update.

1. Skimming efforts still were focused inside the boom.
2. Couldn't find oil east of Berth 3. The current set was to the west.
3. Some oil was visible on the island rocks.
4. The spill still was estimated a 60 barrels but that was expected to be upgraded after an over flight scheduled shortly.
5. 60 barrels of liquids had been collected so far.
6. Divers couldn't find anything on the port side of the ship and were moving to the starboard side. They reported indications of oil coming from starboard.
7. Tide was dropping and oil was coating the pilings and lower structures of Berth 5.
8. The ship was pumping the number 1 port and starboard tanks into the number 1 center tank.
9. Early atmospheric tests at water level showed 0 LEL and less than 0.1ppm of benzene.
10. There was a possibility of oiled sea birds.
11. A seal was reported swimming near the oil.

0544 Predicted low tide.

0549 The Krystal Sea reported oil moving in the opposite direction (this would have been east). The vessel needed to be repositioned.

0555 6 a.m. Shift briefing.

This briefing essentially repeated or confirmed the information above with the following additions:

1. The first estimate of the spill was 50 gallons. That was raised to 500 gallons and then 850.

The current estimate remained at 60 barrels.

2. An over flight identified a light to heavy sheen abeam the Thompson Pass at Berth 3

### DAY SHIFT OBJECTIVES:

1. Continue mop up.
2. Get word from the divers as to the source of the leak.
3. Teams will begin going after oil outside the booms using the helicopter and pairs of fishing vessels with absorbent booms.
4. Clean the pilings at the berth.
5. Cleaning of fishing vessels is being set up at the terminal small boat harbor.

Sharon Hillman of Alyeska reported:

Two biologists were responding to reports of oiled birds.

The oil hadn't impacted the shore yet but it will soon.

Respirators were worn at small boat levels.

EPA had been contacted to open the oil spill function at the ballast water treatment plant.

Eastern Lion Oil Spill May 21, 1994 11

## SUNDAY

LEL 0, Benzene less than 0.1 at water level.

Oil still was being transferred from wing tanks to Number 1 Center on the ship.

SERVS manager Jim McHale was reported to be in Cordova and arranging a flight to Valdez.

0728 The Valdez Star reported it had 75 to 100 gallons of liquid on board "all oil."

The Krystal sea reported they had lost a pin on a Desmi skimmer float and couldn't use the skimmer until it was replaced.

FVs Libra and Reflection were observed on scene.

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WEATHER: Overcast, light rain, temp 45-50, light wind, no seas. Current with a westerly set.

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0750 A call went out to all boats to report any oiled wildlife but not pick it up.

0822 A long deflection Ro-boom was being held perpendicular to the shoreline from the berth out into the port. The current was pushing the belly to westward. This boom was held by the ERV Liberty Service.

0825 The FV Sirocco II was holding a deflection boom off Saw Island.

0827 No activity was apparent aboard the near shore barge Energizer which was moored at Saw Island buoy within half a mile of the Eastern Lion.

A rope mop skimmer was visible on the deck of the landing craft Krystal Sea but this never was observed operating.

0830 The Krystal Sea reported moving to the barge Allison Creek to unload.

0840 RCAC observer was aboard the ERV Heritage Service which was towing a single Kepner boom attempting a "J" configuration with a Sea Skimmer 50 in the apex of the boom.

0848 Valdez Star reported it had a little over 100 gallons aboard, totally oil.

Heritage Service reported 79

Freedom Service reported 69

0850 Observed sheening west of Saw Island. In morning light, portions of the oil appeared a dark purple with rainbow along the edges.

0856 The Sea Skimmer 50 was way to the side of a large belly in the Kepner boom towed by the Heritage Service. With oil collecting the belly, the skimmer could not reach the oil.

At this time the SERVS on water commander described how the booms and skimmers should be configured however this was not followed on the Heritage.

0857 The ERV Pioneer Service which had recently arrived on scene reported its port Kepner boom was deployed and asked for instructions. It was ordered to join the formation with the Heritage and Freedom.

0900 Oil sheen, some of it thick was going by on both sides of the Heritage with no collection to the right (inshore). This was west of Saw Island.

At this point a helicopter observer was directing placement of the booms and spotting oil. It was flying back and forth across the whole area spotting as it went.

0927 The Liberty Service which had been holding deflection boom near Berth 5 reported it had its Vikoma Ocean boom deployed and asked for instructions. It was sent into the formation with the other three ERVs.

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At this time a wake was visible coming off the Heritage Sea Skimmer 50 indicating towing speed was too fast for effective booming and skimming.

- 0929 The helicopter reported oil coming out from under the ship and that a skimmer was right on it.
- 0930 The FV Polecat and a SERVS work skiff were towing deflection boom in from of the Valdez Star.
- 0933 The extent of oil was reported to four miles west of the ship and even with Berth 3 to the east.
- 0937 SERVS crew requested slower speeds for the Heritage because oil was going out under the boom.

A call came to get a skimmer into thick oil laying between the ship's containment boom and Saw Island.

The Heritage skiff had to be relieved in order to refuel.

0947 A work skiff was reported aground on rocks south of Saw Island.

0949 ERVs Heritage and Freedom began a 180° turn to the west.

1015 The turn was completed and booms reformed.

At this time a SERVS supervisor aboard the Liberty Service was named to be in charge of the ERVs in the formation.

1021 A skiff began to line the inside of the Kepner boom with absorbent boom.

1037 The Valdez Star was working in behind Saw Island. Three ERVs were working to the west. The Pioneer and Heritage were operating Sea Skimmer 50s but the Freedom Service did not. The Liberty was pulling into position with the formation and positioning its Vikoma Ocean Boom.

Oil to the east was reported as patchy. Light conditions made spotting the oil difficult until it was right next to the boat. What oil was visible showed as a light sheen.

1100 A work boat crew continued placing absorbent boom along the

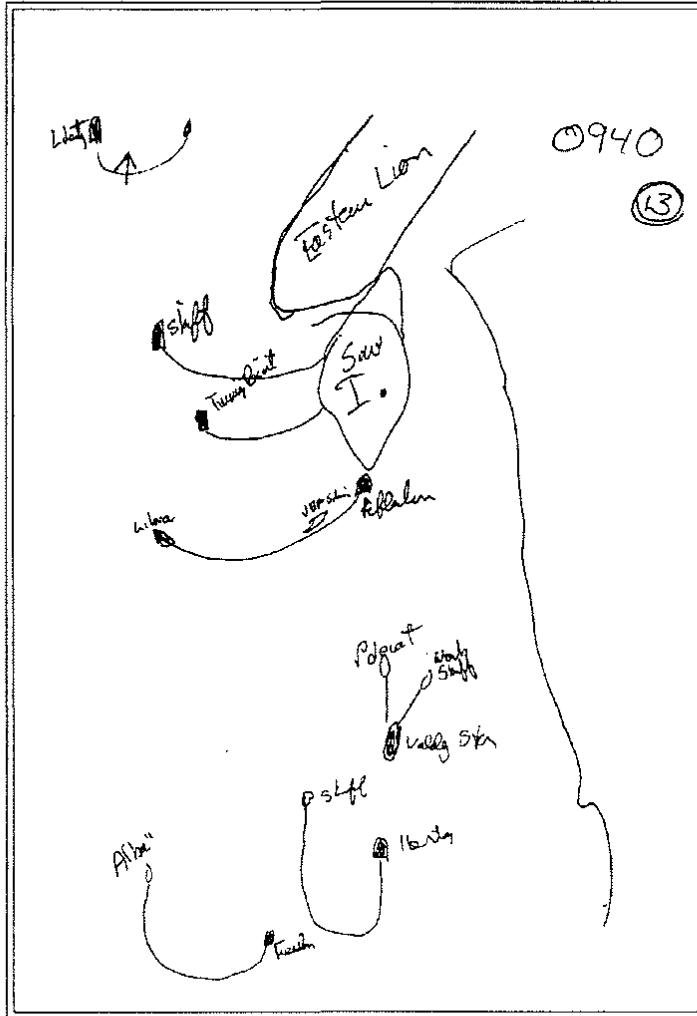
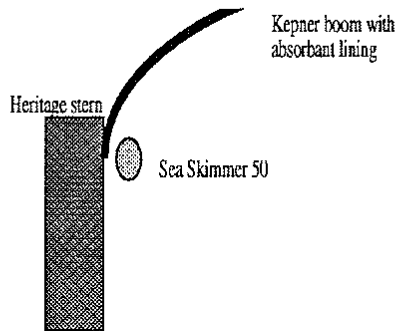


CHART SHOWS POSITION OF VESSELS WEST OF THE SHIP AT 0940.

## SUNDAY

- Kepner towed by the Heritage Service.
- 1103 The Helicopter returned to its position over the formations after refueling.  
The tanker Arco Fairbanks, which was to lighten the Eastern Lion, had rounded Entrance Island into Port Valdez.
- 1107 The Heritage boom was way out of position for the Sea Skimmer 50.



- 1120 The near shore supervisor called to realign all of the ERVs. He want then turned around heading toward Berth 5 from the west. The Pioneer was to be the boat closest to shore lined up on the heaviest of the oil. Each ERV was to fall into position slightly behind and off to the side of the one in front. The Heritage was the boat farthest out into Port Valdez. Very little oil was seen from this boat, mostly a few windrows. By the time this was accomplished, the boats were almost to Seven-Mile creek, about a mile and a half west of the terminal.  
Collected liquids were going into IMO tanks on the decks of the ERVs, not into the ship's tanks.  
The oil spill manager earlier had told vessels to give conservative reports of liquids recovered. He said he didn't want high unrealistic numbers. He said if people had to guess they should guess conservatively.
- 1124 The Pioneer already had turned and was reforming its boom. The Liberty was pulling into position and forming its boom.
- 1137 All the vessels had turned and the Freedom and Heritage still were adjusting their booms.
- 11:44 With the Heritage propeller pitch at 1/2 a foot and towing boom, there was a large bow in the boom and this speed was fast enough to create a bow wave in front of the skimmer that actually pushed oil away

## SUNDAY

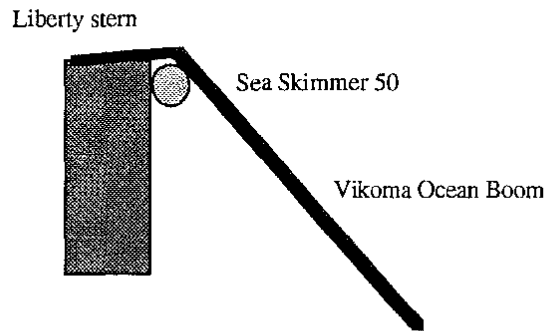
from the discs. This speed also caused entrainment under the boom.

After looking into the tank the Heritage crew estimated about 5 percent oil in the liquid and that was termed optimistic. The consensus was that this oil already was too thin for the Sea Skimmer 50.

1159 Predicted high tide.

1236 The absorbent boom that had been placed along the inside of the Kepner boom towed by the Heritage came loose and had bunched up around the skimmer preventing oil from reaching the discs. At this time the crew also noticed entrainment under the boom.

1244 The ERV formation was passing the bow of the Eastern Lion heading east. The ERV Liberty Service was observed with a boom and skimmer configuration very close to the ideal. (Diagram below and photo in comments)



1250 A cleaning station for boats was to be set up in the small boat harbor at the Alyeska terminal.

1257 The Arco Fairbanks was being brought into Berth 4, passing in front of the ERV formation.

### **Alyeska reported 412 gallons of recovered liquids**

1300 Task force update, the Liberty Service reported a total of 100 barrels with 20 percent oil. (See below the Liberty report day 3 on decommissioning.)

1307 The task force was moving easterly rapidly and currently abeam Berth 4.

1323 The Krystal Sea reported it was finished lightering to the Allison Creek. This unloading took almost five hours.

1330 The Krystal Sea was ordered to lighter the small skimmers. Told not to bother with Desmi skimmer because the oil was too thin.

1341 An order came through to establish the Liberty Service as the command center with the SERVS on-water commander, the Coast Guard and others. All communications were to be channeled through the

Eastern Lion Oil Spill May 21, 1994 15

## SUNDAY

- Liberty to the EOC where Jim McHale, SERVS manager, served as Operations Chief.
- 1348 ERVs were ordered into a 180° turn.
- 1356 At this point the FV Kristina was towing boom with the Heritage Service. This was the farthest out into the port of the ERVs. Both boats were seeing windrows of oil with the Kristina pointing out more to the north.
- 1400 The helicopter reported sheen at Allison Point, about 3/4 of a mile east of Berth 1.  
At this point the Heritage was about 3/4 of a mile offshore and seeing oil north of that about midway between Allison Point and Berth 1.  
Large globs of oil were reported near Saw Island.
- 1425 Three of the ERVs turned and began towing boom to the west. The Heritage because of continuing to see windrows of oil continued to the east.  
The Valdez Star was skimming between Berths 1 and 3.  
The Arco Fairbanks had just about completed berthing.
- 1432 A report came that a slick was moving half a mile west from Solomon Gulch Hatchery inshore in shallow water.
- 1437 At a call from SERVS near shore supervisor Steve Hood in the helicopter boats began rushing toward the hatchery. At this time there were approximately 900,000 silver salmon smolts in one net pen at the hatchery. All pink and chum salmon had been released April 29 or May 9. At this time a boom was closed around the net pens but a complete boom around the hatchery had not been placed. Sections of shore guardian boom were visible on the east side of the hatchery but not on the west.
- 1443 Strong easterly current was observed at this time. At one point an oil slick actually was observed moving faster than the boat. At this time there was no wind and the water was calm. (1443 to 1538 Videotape of hatchery protection effort.)
- 1447 The helicopter was hovering offshore near the hatchery to mark the leading edge of the oil.
- 1448 The Heritage Service continued on its easterly course toward the spot marked by the helicopter.
- 1448 A boat sent to the hatchery could not contact the shore crews and as a result the boat passed the net pens and went to the east toward that activity. Two other small boats carrying absorbent could not be reached by radio and simply drifted near the net pens. The helicopter finally had to land so Mr. Hood could begin equipment mobilization.
- 1503 At this point the oil was closer than 0.557 mile to the net pens estimated from ship's radar.
- 1504 Landing Craft Krystal Sea called saying it would bring absorbent boom to put around the net pens. It was coming from the Berth 3 area.
- 1510 Helicopter reported the heaviest concentration was almost to the net pens between where the helicopter was hovering and shore.
- 1511 The helicopter crew said the oil was in the net pens right now.
- 1513 The hatchery crew said they would make the preparations to move the net pens out of the area but this

## SUNDAY

would take 20 to 30 minutes.

At this time according to hatchery manager Ken Morgan two slicks of oil appeared within the net pen itself. He described these as about three feet in diameter. He said they appeared and then dissipated almost as fast. Some oil did appear on the surrounding materials. Mr. Morgan said the silvers only rose to the surface to feed and they refrained from feeding during the day. This was disputed by other biologists.

The helicopter still could not communicate with the two small work boats carrying absorbents.

- 1518 Contact finally was made with the two work boats and they were ordered to put their booms around the net pens.

Several boats were observed rushing boom to the hatchery.

- 1529 Wind in the afternoon sea breeze had reached approximately 9-12 knots.

- 1535 FV Sirocco II was towing absorbent boom in front of net pens.

A Grayling work boat was towing CSI boom away from the containers on the east side of the hatchery.

- 1538 A hatchery crew reached the net pens by boat to prepare for towing. At that time they reported oil touching one corner of the pen.

This pen also was protected by a salinity barrier. This is a sheet of polypropylene that hangs about four feet down into the water and

held down by heavy lead weights. Towing the pens away was the hatchery's first choice. The fish also could have been released.

By this time shore guardian had been laid from shore on the west side of the hatchery and a Grayling work boat was about two thirds of the way to connecting CSI boom from the eastern shore guardian to the western.

- 1540-1600 Heritage Service continued to tow boom in vicinity of hatchery. Crews worked to connect the booms around the perimeter of the hatchery waters.

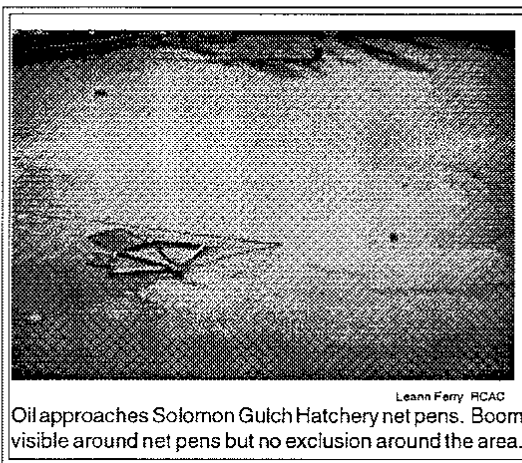
RCAC's Tom Sweeney reported oil on the beach at Allison Point.

- 1601 Private vessel landing craft Lucinda Rose arrived to help tow the net pen.

- 1604 Heritage Service was completing a turn back to the west and just forming its boom. Some oil was collected in the boom.

- 1615 Alyeska reported 625 gallons of recovered liquids.

- 1654 The Freedom Service while deploying its ocean boom with the FV Alaskan Spirit found thick oil just



Leann Ferry RCAC  
Oil approaches Solomon Gulch Hatchery net pens. Boom visible around net pens but no exclusion around the area.

## SUNDAY - MONDAY

east of Allison Point.

1727 FVs Miss Carol and Centaur arrived from Cordova.

1742 Predicted low tide.

1748 ERVs were towing boom in formation to the west toward Allison Point. Most booms were out of shape with a large belly in the Kepner towed by the Heritage and the ocean boom between the Freedom and the Alaskan Spirit almost straight across, presenting a face perpendicular to the oil rather than angled diversion into a belly.

1830 Observer departed Heritage Service. Stopped at RCAC Valdez office for conference.

Throughout the rest of the evening observer monitored the response from shore by radio and from the highway ranging from the terminal to the container dock. Throughout this period and through the night, the response essentially consisted of the above described formations following windrows and spots of oil pointed out by helicopter until it became too dark for flying.

1100 Observer retired for evening.

2352 Predicted high tide.

### MONDAY MAY 23, 1994

**0300 Alyeska reported 1,095 in recovered liquids ( did not differentiate gallons or barrels)**

0534 Fishing vessels were sent to the islands west of the Valdez Container dock about 150 yards offshore where a slick had been spotted. Others were ordered to the head of the bay to begin sweeping to the west.

0548 Observed lines of sheen near inter tidal area at a small creek that enters Port Valdez just east of the road to the container terminal.

Obvious oil caught in a tide rip was moving inshore in this area

0550 At the Valdez Container Dock: Two fishing vessels were towing Kepner boom toward the islands west of the dock. Vessel operating lights were visible as far away as Andersen Bay at the southwest end of Port Valdez. No activity was visible east of the dock.

Tank Vessel Thompson Pass was still at Berth 3.

0615 The two fishing vessels working west of the container dock reported recovering a large (by the standards of this spill) amount of oil in the boom.

0635 Predicted low tide.

0641 Observed oil sheens around container dock including behind it where a sheen was moving through the passage. This sheen covered most of the water in this passage, about 100 feet wide and 2/3 the length of the container dock.

**0700 Alyeska reported 1,145 in recovered liquids ( did not differentiate gallons or barrels)**

0701 Observed and videotaped apparent oiling on an Arctic Tern.

0703 Informed RCAC office of the sheens and was put in touch with oil spill manager John Baldrige who asked for a detailed description of the location of the sheens.

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## MONDAY

- 0716 Observed a harbor seal swimming in the oil behind the container dock.  
Continued a survey of shoreline around the container dock area.
- 0725 Two SERVS supervisors arrived to assess the oil at the container dock.  
The landing craft Krystal Sea was observed pumping from the boom held by the two boats west of the container dock.
- 0739 Observed two pairs of boats towing absorbent boom in the bight east of the container terminal.
- 0745 Observed some personnel from the Hartech company (the shoreline cleanup contractor) near the creek on the east side of the road to container dock.
- 0800 **Alyeska reported 1,151 in recovered liquids ( did not differentiate gallons or barrels)**
- 0806 Observed and reported light oil sheening in the inter tidal zone of beach at Hotel Hill just east of the Valdez Small Boat Harbor on the Port Valdez side of a point there.
- 0815 (Approximately) Report that absorbent boom was available at the container dock and Hartech was to bring people there to deploy it.
- 0820 Request made of EOC to obtain permits to go ashore for shoreline protection.
- 0910 Observer departed Valdez Small Boat Harbor in skiff with RCAC chairman Stan Stephens to tour the spill area. Permission to do this had been obtained from the Coast Guard and a general float plan was reported to the CG. Notified Coast Guard Cutter Midgett upon departure.
- 0920 Observed absorbent blanket material had been placed along the east side of the causeway to the container dock all the way along the open water leading to the Valdez Duck Flats. This boom was attached to the guard rails on the causeway and incoming current had it pressed against the pilings of the causeway. In at least two places the current had pushed this boom under water at the pilings and water was flowing over it. No tending crew for the boom was visible from the water, however there could have been people in the vicinity. Some oil discoloration was observed on this boom. Two small work boats were towing absorbent boom in a U near the causeway. CSI boom was being towed east from the Container Dock.
- 0950 Observed the boom around Solomon Gulch Hatchery. Two small work boats were towing absorbent boom along the main exclusion boom. One section of the main boom appeared twisted and had absorbent boom wrapped around it. One section of the CSI exclusion boom had sunk to the west of the net pens. This left an opening estimated at 10-20 feet. It was later learned that this was caused by a short anchor line that pulled the boom under water when the tide rose.
- 1015 FV Taku was holding deflection boom straight out from Berth 4.  
The Valdez Star was skimming between Saw Creek and 7-mile Creek.  
Noticed threadlike oil descending into the water from the surface slick.
- 1020 Observed crew cleaning the hull of the Thompson Pass still at Berth 3 with a steam cleaner.
- 1035 Video taped oiling along the hull of the Eastern Lion. The inner boom was flat against the hull of the ship with the outer boom about 10 feet away.  
A JBF skimmer was skimming inside the inner boom.  
A Lori Brush rope mop skimmer was working just outside the outer boom at the southwest corner.

## MONDAY

- A small work boat was changing out absorbents around the outer boom to the southwest. Fishing vessels were towing U booms west of the ship. At this time those vessels that had been observed toward Andersen Bay at the west end of the port had returned closer to the ship. Oiling was observed on the pilings of the berth to the extent of the rise and fall of the tide. Looked for oiling on rocks behind Saw Island and saw nothing obvious. One cormorant was observed on the rocks but flew away and appeared to be all right. It was not preening or giving any indications of having been oiled.
- 1050 (Approximate) Observed Freedom Service and FV Alaskan Spirit towing U boom in vicinity of Gold Creek on the north side of Port Valdez west of town. Some light sheens were observed in the water to the inshore side of the boom.
- 11:30 Approximate. Returned to Valdez Small Boat Harbor.  
Went to RCAC office for report.
- 1130 Alyeska reported 1,201 in recovered liquids ( did not differentiate gallons or barrels)**
- 1230 Observer walked about 300 yards of shoreline along Richardson Highway at the Valdez Duck Flats. This was close to extreme high tide and the water had risen to about 50 feet from the highway. Oil sheens were not apparent. Disturbing the material caught at the extent of the tide current released dime to quarter sized platelets of oil.
- 1257 Predicted high tide.
- 1430 Alyeska reported 1,208 in recovered liquids ( did not differentiate gallons or barrels)**
- 1520 A Lori Brush skimmer was working along the face of the container dock.  
A Hartech crew was loading shoreline cleanup materials and equipment aboard the landing craft Ocean State. Bert Hartley Jr. said he was to take the equipment to Saw Island.
- 1550 A crew was walking the shoreline east of Solomon Gulch Hatchery.  
An afternoon sea breeze was building and one supervisor called for a weather forecast. As this breeze built, oil was reported escaping from the booms around the ship.
- 1600 Observer visited British Petroleum office in Valdez. Rich Nielsen BP agent said BP personnel had been arriving since the first flight to Valdez Sunday morning, with the majority arriving Monday. BP had 40 persons in town, not counting those stationed in Valdez, as of this hour with more coming. All but five of those came from Anchorage with the others coming from Cleveland. At this time BP personnel were working man for man with their counterparts at Alyeska in preparation for taking over management of the response. Those with Alyeska counterparts were to remain at the terminal throughout the response while the others would work out of the BP offices on Egan Drive in town. NOTE: Simon Lisiecki, the BP lead agent for Valdez was in the hospital in Anchorage recovering from an operation at the time of the spill. Mr. Nielsen said he had been called out of the hospital and was working at a desk at BP's Anchorage response center.
- 1748 Boats and boom were moving to a point between Berths 3 and 1 to contain oil that escaped the boom around the ship.



MONDAY

- 1834 Predicted low tide.
- 1900 ERV Heritage Service was ordered to start decontamination at the Crowley dock in the Alyeska terminal area in preparation for escorting the Thompson Pass. The Liberty and Freedom had recovered their booms and were standing by awaiting orders or decontamination.
- 1935 At the Container Terminal: The blanket type absorbent along the causeway to the terminal had been retrieved and was bagged awaiting pickup by an Alyeska truck. Another truck was parked at the terminal with a load of absorbent material.
- The only visible boom on the east side at this time was CSI boom held to eastward of the dock by the FV Sirocco II.

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At this time a squall was moving through Port Valdez with westerly winds reaching an estimated 20 knots and driving rain.

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- 1955 At Allison Point: With a helicopter overhead directing efforts, the Valdez Star and JBF skimmer were proceeding eastward to begin skimming on an oil slick. Two fishing vessels with the Star's deflection boom were moving into position ahead of the Star. The Tempest reported its boom breaking in the wind.
- Two fishing vessels were towing a Kepner boom in a U at about the stern of the tank ship Kenai at Berth 1.
- Another pair of fishing vessels with Kepner was in front of them.
- 2007 The Valdez Star had moved to an area east of Allison point and turned to face into the wind (west) to begin skimming.
- 2010 The two fishing vessels with Star's deflection boom pulled in front of the skimmer. The fishing vessels with the Kepner near the Kenai were allowing themselves to drift backward.
- At this point, observer contacted Solomon Gulch Hatchery to inform them that oil again was approaching the net pens.
- 2017 A report came that efforts were under way to boom the island west of the Container dock. A fishing vessel was sent there with absorbent boom and an attempt was made to place CSI there as well.
- The helicopter directing the Valdez Star called for the JBF skimmer to set up on the starboard quarter of the Star to skim on a slick of oil escaping the Star's deflection booms.
- There still was a noticeable chop on the water, but the wind was dropping.
- The Star suggested putting the Kepner booms behind on the leading edge.
- Two skiffs inside the boom at the hatchery had absorbent booms.
- Fishing vessels Polecat and Cape Kumlik were moving to obtain absorbent boom and set up behind the Star.
- FVs Evie and Phyllis Jean were ordered to close their Kepner boom and move to a position behind the Star.
- 2033 The Alaskan Spirit reported its boom had flattened behind it as the current changed.
- 2034 Helicopter flew to a position near the hatchery net pens.
- The helicopter observer predicted the oil would pass north of the net pens.

MONDAY -TUESDAY

- 2100 The Star reported it had taken maybe 5 gallons in the previous hour. The captain also reported the line from a crab pot buoy was tangled in one of the deflection booms.  
The Alaskan Spirit was towing Kepner boom past the Star.  
The Polecat and Cape Kumlik came into position with absorbent U boom configuration behind the Star.
- 2105 Alaskan Spirit and reflection were pulling into position behind the Polecat and Cape Kumlik to form U with Kepner boom.  
Observer departed Allison Point for the hatchery.
- 2105-2205 Observer warned hatchery of oil bearing down on net pens. Manager Ken Morgan was contacted and he called Alyeska for assistance.
- 2205 Alaskan Spirit on leading edge of oil was now east of the hatchery. A small boat crew was bringing sections of Shore Guardian boom out around the CSI of the main boom around the hatchery. Another crew was deploying absorbent inside the boom.  
This effort or the trajectory of the oil prevented any from reaching the net pens on this occasion.
- 2300 Observer departed for evening.
- 2400 Alyeska reported 1,208 barrels of recovered liquids.**

TUESDAY MAY 24, 1994

- 0059 Predicted high tide.
- 0300 Alyeska reported 1,200 barrels of recovered liquids.**
- 0445 Alyeska reported a 1-2 barrel release from under the ship.
- 0545 Observer checked with Solomon Gulch Hatchery concerning oil in net pens. At this time hatchery personnel didn't believe there was any impact. They planned a thorough inspection at 0800  
The Alaskan Spirit in the vicinity east of the hatchery boom reported seeing no sheens around the boat.  
At the Container Dock vessels reported the tidal current was bellying the boom out and crews were experiencing trouble deploying and holding boom in the current.  
Fishing vessels were being called to the west of Saw island to tow booms.
- 0600 Alyeska reported 1,200 barrels of recovered liquids. Ready for disposal: 1,024 bags of solids/absorbents.**
- 0605 The tanker Kenai was away from Berth 1  
The Valdez Star was skimming near Berth 5.
- 0615 Vessels were working on slicks near Saw Island.
- 0616 The Valdez Star reported it had oil around both sides of the vessel.
- 0630 At the container dock: FV Libra was towing a long boom made up of three different varieties, CSI, Shore Guardian and a black boom, west from the container dock almost to the point at Hotel Hill. FV Sirocco II was holding a CSI boom east from the Container Dock.  
Scott Thompson reported a quantity of oil had come up from under the ship earlier in the morning and escaped the booms around the ship. He said the Valdez Star was on it right away and "had it under control." This explained the flurry of activity around the ship and west of Saw Island.

TUESDAY

- 0656 Supervisor called for continuing the process of booming off the Valdez Duck Flats.  
Most vessel activity was just to the west of Saw Island.  
Landing Craft Krystal Sea reported completing off loading.  
Vessels were booming east of Berth 3  
The SeaRiver Benecia was moored at Berth 3.
- 0700 Predicted low tide.
- 0701 Supervisor at Berth 5 called for more fishing vessels for booming.  
Three Lori Brush skimmers were reported deployed around Saw Island.  
Three Hartech persons were reported as having been up for a day and a half without relief.  
Radios were needed for personnel on the Lori Brushes.  
Two bowpickers were standing by with wildlife rescue gear aboard.
- 0720 Observer went to SERV S base for ride out to ERV at Saw Island area.
- 0723 Predicted low tide.
- 0735 Helicopter reported a continuing westerly set to the current despite the tide change at about 0700.  
The helicopter directed boom boats and skimmers to oil slicks.  
The helicopter reported black oil bubbling up from the western quarter of the ship (This would have been near the bow)
- 0801 The helicopter reported the current had slowed. This was judged by observing buoys. Helicopter said booming would have to be changed around soon to meet a reversal of the current with the tide.  
A fishing vessel was directed to Berth 1 to deploy absorbent boom.
- 0821 Several boats were reported having soiled absorbent within their collection booms and efforts were begun to replace it.
- 0830 Alyeska reported 1,211 barrels of recovered liquids. Ready for disposal: 1,050 bags of solids/absorbents.**
- 0845 Four fishing vessels reported beginning to change out the absorbent within their booms. All of these had to request personal protective equipment (PPE), particularly rain gear and gloves for handling the oiled material. This was provided from the Valdez Star. According to the plan, PPE, which is made of materials particularly resistant to the oil, is to be provided to fishing vessels before they enter an oiled area.
- 0920 Aboard the Liberty Service. Observer was informed the Liberty had been relieved and was preparing to head for the Crowley Dock at the terminal for cleaning. This is the one referred to as "Key West."
- 0924 Tidal currents were reported pushing water over the boom around the tanker near the stern.
- 0926 Two sections of Ro Boom around the ship were reported deflated near the stern. With tide coming in it was feared oil would pour out of the boom to the east. At this time the boom was still bowed to the west so the current was still pushing it in that direction.  
A fishing vessel reported hitting a rock behind Saw Island.  
In this time period a videotape was made as the Liberty moved past the entire area of activity around the

TUESDAY

- ship.
- 0934 The boom around the tanker was observed flat against the hull on the starboard side.
- 0950 Liberty Service docked at the terminal "Key West" dock.  
From this position, observer was able to see the stern of the Eastern Lion and activity to the north of the ship.
- 1003 A skiff was reported in the area taking water samples.
- 1030 The helicopter ordered the Lori Brushes out from behind Saw Island to the buoys on the western end of the ship. Black oil was reported behind the collection boom.  
More fishing vessels requested PPE to pick up soiled boom.
- 1038 The Valdez Star was skimming directly east of the stern of the ship almost against the boom.
- 1116 The Liberty Service crew measured liquids in its collection tank. It was reported 2 feet, 5 inches deep in the tank and the mate indicated the oil was between a half of an inch and an inch deep at the top. From this the vessel supervisor estimated 1,000 gallons in the tank. At 1300 Sunday the vessel had reported 100 barrels aboard (420 gallons) with 20 per cent oil.
- 1130 Alyeska reported 1,212 barrels of recovered liquids. Ready for disposal: 1,117 bags of solids/absorbents.**
- 1153 Fishing vessels began holding the containment boom away from the ship and lining it with absorbent. The Valdez Star remained in position near the stern.  
Observer departed Liberty Service on Monarch work boat.
- 1247 At Solomon Gulch Hatchery. One section of the CSI portion of the outer boom had small waves washing over it. The booming was lined with absorbent.  
Observer returned to SERVS base, visited the Valdez RCAC base and then went home to begin typing notes.
- 1352 Predicted high tide.
- 1430 Alyeska reported 1,213 barrels of recovered liquids. Ready for disposal: 1,201 bags of solids/absorbents.**
- 1500 Management of response was reported assumed by British Petroleum.
- 1738 Report came that no new sheens were coming from the Eastern Lion.
- 1922 Predicted low tide.
- 1940 One section of Shore Guardian boom west of the hatchery was deflated.
- 2000 On the east side of the Container Terminal: A boom had been placed from shore to the container area landfill. This had sections of Shore Guardian at both ends and CSI floating between. It boomed off the water passage under the causeway.  
On the west side CSI had been placed from the dock all the way across to the point at Hotel Hill with sections of Shore Guardian at the Hotel Hill end.

WEDNESDAY

Boom boats around the ship were reporting finding little oil in their booms.

WEDNESDAY MAY 25, 1994

- 0127 Predicted high tide.
- 0630 Shore Guardian boom at the west side of the hatchery remained deflated.  
A Lori Brush was reported hung up on rocks near Saw Island.
- 0640 West of Saw Island:  
Valdez Star was skimming a few hundred yards west of the Eastern Lion bow.  
Four pairs of fishing vessels were towing U booms to the west of the Star.  
Two pairs of fishing vessels were towing U booms east about abeam of Berth 4.  
With the activity to the west observer guessed there was a release from under the ship earlier.
- 0650 Observer toured EOC conversing with members of BP response team. One suggestion came that communities have available a list of local suppliers for a response. As much as possible BP would prefer to buy from locals but had difficulty finding suppliers. Valdez was a little better because BP maintains an office here.
- 0719 Reported divers had completed their work under the ship about 20 minutes previously. They had been using compressed air to blow remaining oil caught in pockets under the ship. Reported a small release had occurred during this operation.
- 0735 Supervisor called for absorbent sweeps to be placed all the way around. And, to hurry.
- 0739 Helicopter reported a majority of the sheening was coming up on the port side of the ship and going to the back of the boom, pushing against the primary boom. The call came again for absorbents to be placed in the path of the oil.
- 0758 At Solomon Gulch Hatchery: A two sections of Shore Guardian boom on the east side of the hatchery were deflated, one in the water tubes and the other in the air tube.
- 0800 At the Container Terminal: Boom on the west side of the dock that stretched to the point at Hotel Hill had beached for most of its length at low tide. A few sections of Shore Guardian were laid from the Hotel Hill end but most of it was CSI.
- 0808 Calls were made for skimmers at the east end of the boom around the ship.
- 0810 Lori Brush skimmer Number 1 was reported broken down.  
Predicted low tide.
- 0825 The tanker Keystone Canyon was away from the dock departing.  
Observer returned for conference at RCAC Valdez office, then home to continue work on report.
- 0900 BP reported 1,214 barrels of recovered liquids. Ready for disposal: 1,967 bags of solids/absorbents.**
- 1100 Valdez Star was called to the Key West dock to begin cleaning the bottom.
- 1444 Predicted high tide.
- 1500 Helicopter reported several discharges coming up from under the ship.
- 1550 Divers were continuing with the operation of blowing away pockets of oil under the ship.  
SERVS personnel on the ship's deck and in the helicopter continued directing the boom and skimming

Eastern Lion Oil Spill May 21, 1994 25

THURSDAY

vessels to slicks that escaped the ship's booms.

A light afternoon sea breeze came up.

2010 Predicted high tide.

**THURSDAY MAY 26, 1994**

0215 Predicted high tide (14.3 feet)

0845 At the Pipeline Terminal:

A third layer of boom had been placed around the ship.

Valdez Star was standing by abeam of the stern of the ship but not skimming.

Two pairs of fishing vessels were towing U booms west of the berth. FVs Lady Sandra and Evie were in close to Saw Island, two others were farther back about 1/4 of a mile.

The FV Taku was holding one end of an absorbent sweep near the west point of the island but the other end of the boom was obscured behind the island.

Fishing vessels and the helicopter were reporting sheens to the west of the ship.

Lori Brush skimmers were visible working on the sheens.

Some fishing vessels were allowed to trade out with others in order to rest and resupply.

A least two fishing vessels were holding the outer containment boom away from the ship.

Small work boats were towing absorbent booms close to Saw Island.

Sunset II (dive boat) was inside the boom.

The boom was being taken away from the Arco Fairbanks (the ship the Eastern Lion was lightered to) in preparation for a 1000 sailing.

Preparations were being made for a hull inspection of the Eastern Lion.

0857 Predicted low tide (-3.6 feet)

**0900 BP reported 1,366 barrels of recovered liquids. Ready for disposal: 2,615 bags of solids/absorbents.**

0903 Coast Guard demanded a full hull inspection rather than just the forward portion where the leak was suspected to be.

The dive crew reported divers probably couldn't go back into the water until afternoon.

The terminal skimmers, 2 JBFs, 1 Marco Class 7 and one Class 5 were being prepared for decontamination. Sent to a point inside the outer boom and boomed off with absorbent.

0900 Briefing and Situation Update:

Lori brush skimmers were being taken out of service and would be used as platforms for the hull cleaning

Operations helicopter would follow the Arco Fairbanks to watch for sheens.

Tactical operations for the next period:

Planned to continue with what existed

Maintain boats inside the booms while cleaning the hull

Continue with booming on Duck Flats and Hatchery.

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## THURSDAY-FRIDAY

Alan Duggins, the BP operations director said all of the oil had been taken out of the ship and put aboard the Arco Fairbanks. He said the Fairbanks' tanks had been topped off from the terminal. Earlier it had been reported the Eastern Lion cargo was 10,000 barrels more than the Fairbanks could hold.

In response to a question the BP logistics chief said the supply of absorbent materials was getting thin. Steve Hood, the SERVS nearshore supervisor, said they were running low on sweeps but had plenty of pad material and sausage booms.

BP was in the process of obtaining the following:

Item	Amount	ETA
Absorbent Sweep	2,250 bales (100' to a bale)	Unknown
Pom Pon	491 bales (30 bags to a bale)	1700 5/26
Viscous Sweep	200 bales	1700 5/26
Absorbent boom	2 Connexes	2400 5/26
Kepner Sea Curtain boom*	3,000 feet	5 weeks
Kepner Harbor Boom**	4,000 feet	6 days

\* This was to replace oiled boom on the ERV Freedom Service in order to bring her into compliance to do tanker escorts. SERVS said enough boom was available to piece together an adequate amount to allow the Freedom to escort.

\*\* To replace boom at Solomon Gulch Hatchery.

0930 Over flights were showing few or no sheens outside the ship booms

A call was made to send a river boat to tend boom at the hatchery. On the low tide, boats near shore were trapped in a tidal pool.

Observer returned home to continue work on report while monitoring radios.

1533 Predicted high tide.

1400-1700 Attended debriefing with RCAC staff.

2059 Predicted low tide.

### FRIDAY MAY 27, 1994

Throughout this day, the operation began to clean and decommission the various vessels involved in the spill.

**0900 BP reported 1,366 barrels of recovered liquids. Ready for disposal: 2,898 bags of solids/absorbents. 252 drums of heavy oily solids.**

The Eastern Lion was scheduled to leave the Berth at 1400 and move out into the port. There the hull was to be cleaned in places that couldn't be reached while the ship was at the berth. A "burp" of oil came up from under the ship on leaving the berth, but reportedly skimmers and booms were on it quickly and retrieved most of it. Pending inspections by ADEC and the US Coast Guard it was scheduled to depart around 1830. Two helicopters were dispatched to follow it watching for sheens and the Valdez Star also was scheduled to follow it out of the port. The ship was observed in the port shortly after 1900 still standing off Berth 5. At this time it was attended by at least four fishing vessels holding booms, the Valdez Star,

an ERV and a tug. Participants said a spot of black oil came up from under the ship when it moved. Fishing vessels with absorbents were right on the oil and a vessel operator directly behind the first boom said nothing passed the boom. Shortly before 2200 it was observed steaming westward in Port Valdez. Right around 2200 it was observed turning around having reported the loss of its Gyro compass. BP agent Capt. Simon Liesecki was aboard. The ship was reported later at Knowles Head anchorage awaiting a technician to repair the gyro. The ship was reported off the Queen Charlotte Islands Monday May 30.

BP sources said the ship would sail with orders for the shipyard at Portland, Oregon. However, the owners were awaiting approval from the American Bureau of Shipping and if that was received the ship was to be sent to a foreign port. Which port was not indicated. Later it was reported the ship sailed with Anacortes, Washington as a destination.

During the afternoon BP planned to close own its incident command structure and go to what they called "project mode." Company officials said they expected to have a crew remain in Valdez for at least three



weeks.

**VESSELS INVOLVED:**

**Fishing vessels:**

**From Valdez**

Alaskan Spirit	Alba II	Cape Kumlik
Evie	Glacier Island	Kristina
Lady Sandra	Libra	Polecat
Reflection	Sirocco II	St. Andrew

**From Cordova**

Alaska Lady	Centaurus	Cheryl Ann
Miss carroll	Monde Uni	Ravens Child
Hel N I	Bligh Reef	Cat Balou
Miss Kayley	Crystal Dawn	My Prime Time

**From Tatitlek**

Phyllis Jean

**ERVs** Pioneer Service, Heritage Service, Liberty Service, Freedom Service

**Skimmers:** Valdez Star, 2 JBF, 2 Marco

**Landing Craft:** Krystal Sea, Ocean State, one other

**Storage Barge:** Allison Creek.

**Aircraft:** 1 helicopter

**Miscellaneous:** one dive boat; one charter passenger vessel; several work boats, Monarchs, Graylings, work

## OBSERVATIONS AND COMMENTS

### A note on comments.

The comments and observations below are heavy with criticism. They must be taken in the context that this was a relatively small spill that separated very quickly into light sheens that are difficult to recover. Absorbent materials worked well on these sheens where some of the heavier duty skimmers in the Alyeska/SERVS inventory would have pumped mostly water. While the comments highlight areas where there could have been improvements, the comments are not offered simply to find fault with the Alyeska response, but to point out areas where response to future spills could be improved.

skiffs and river boats.

### SPILL ASSESSMENT AND RESPONSE STRATEGY

Initially this spill was assessed as 50 gallons. This grew to 20 barrels, 60 barrels and then 200 barrels overnight. Response strategy appeared to have been based on the lower estimates and as a result certain pieces of equipment were not brought to bear on the spill.

1. **Transrec Barges.** There were two Transrec barges available in Port Valdez, yet neither was used during the cleanup. While oil was thick inside the booms around the ship one of these could have been placed next to the boom with the large-volume Transrec skimmers inside the boom and caught a good deal of oil. This also was an opportunity to test the Transrec 350 skimmer in cold water with North Slope crude oil. SERVS has trained in this procedure. REF: Drill report number 223 Skim 93 14, dated May 17, 1993.

2. **Response strategy.** This spill occurred in what has to be considered the near shore environment, yet the Near Shore Contingency Plan was never used. Over the past two years that plan was developed and SERVS personnel and fishing vessel operators have been trained in near shore strategies and equipment. The near shore barge Energizer which according to the plan should have had almost 15,000 feet of boom and several skimmers suited to near shore operations aboard was never used, though it was moored less than half a mile from the Eastern Lion at the time of the discharge. This spill was particularly suited to the near shore strategy of strike teams and small collection units as the oil, once it escaped the primary booming, quickly separated into slicks and windrows. In the near shore plan fishing vessels with shorter lengths of boom collect oil and hold it while another fishing vessel brings a small barge to the boom and skims the oil out of it. No evidence of using the strategies in the near shore plan was observed with the possible exception of the Landing Craft Krystal Sea, which deployed its rope mop skimmer and when that didn't function too well, a Desmi skimmer that did. Fishing vessels did take some Ro boom from the Krystal Sea. This spill provided an opportunity to test the near shore techniques and equipment in real oil.

Citation: PWS Nearshore Oil Spill Response Plan, Section 3.2.1; "Nearshore free oil recovery activities have been designed for fragmented oil rafts, slicks and sheens that have escaped...initial collection activities."

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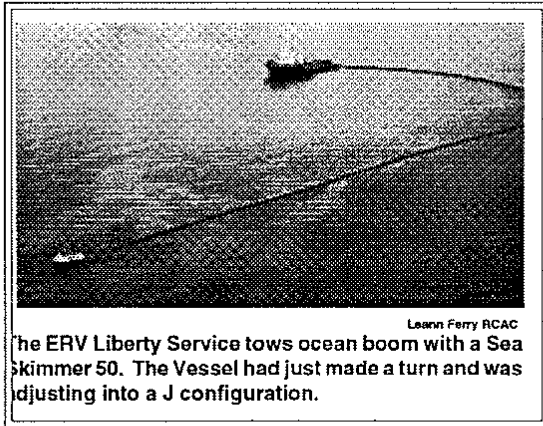
This describes the oil spill that occurred.

#### **BOOM CONFIGURATIONS:**

**At the ship:** During the early hours oil slipped through the two containment booms around the ship at a steady pace. This was particularly visible in the southwest corner of the boom off the port bow. One side of the boom running from east to west gave an acceptable angle to the tide of less than 20 degrees. However the boom kinked at a tie point either to the berth or Saw Island and the side running south to north off this kink was almost perpendicular to the current causing entrainment and what looked like flow-through at a connection point between sections of boom. In addition to configuring this boom properly, more layers of boom could have been placed around the ship to capture oil escaping the first two. The Barge Energizer was sitting less than half a mile away with almost 3 miles of boom on board.

**Citation:** Alyeska Terminal Oil Spill Contingency Plan: Section 1.6.9.1 "In marine spills that occur outside a boomed off area, the first priority is to deploy containment booms as quickly as possible as close to the source as possible so that the boom will contain as much oil as possible. This can be done using:

1) Pre-staged boom on the flat deck barge stationed at the single barge mooring point to the west of Berth No. 5.



2) Pre-stage 10x16-inch boom stored in Conex trailers located near the Small Boat Harbor.

3) Non-vessel dedicated, in-water boom at one or more of the berths."

In a subsequent paragraph the plan speaks to oil escaping primary booming by 1 capturing oil escaping from the primary containment area, and establishing secondary containment zones downstream from the primary containment zone.

This plan version was dated Nov. 1, 1993.

**At Solomon Gulch Hatchery:** The boom around the net pens at the hatchery is configured in a rough diamond shape with one point of the diamond pointing

to the west. Oil was observed flowing along the boom on the northern section effectively diverted away from the net pens. However the southern leg presented a face of up to an 80-degree angle to the current direction and oil slipped past this leg, entering the net pen area. By watching this carefully, the boom could have been adjusted to deflect the oil more effectively.

**Towed by vessels:** The ERVs deployed booms and Sea Skimmer 50s to collect and skim oil. Of three of these deployments, only one, the Liberty Service, configured its boom for the highest efficiency. SERVS had held a drill just the Friday before the spill with the Freedom Service deploying a Sea Skimmer 50 in which the most effective booming was with the Vikoma Ocean boom drawn flat across the stern of the vessel and then towed forward in a V with a work skiff or fishing vessel.

With that configuration, the skimmer slides back into a pocket between the boom and the boat where oil will collect the thickest. The Heritage Service and Pioneer Service both used Kepner boom tied to the same side of the vessel as the skimmer leaving an opening between boom and boat. In addition for the most part these vessels had large bellies in their booms collecting the largest concentrations of oil far away from the skimmer. The observer was not able to check the speeds on the other two vessels, but the Heritage towed at speeds fast enough to entrain oil under the boom and to raise a bow wave on the skimmer that also pushed oil away. The SERVS on-water commander told the boats to use configurations similar to that of the Liberty but this was not done.

REF Drill Report: 221 Skim 94 09 dated April 30, 1994; 223 DEFL/CONT 93 06, dated March 3, 1993 and an upcoming report on a Sea Skimmer exercise with the Freedom Service Friday May 20, 1994.

#### **HATCHERY PROTECTION:**

The permanent boom around Solomon Gulch hatchery net pens was closed relatively early. However the main exclusion boom that is supposed to go all the way around the hatchery area from well to the east of the hatchery to west of Solomon Creek, was not placed until oil already had reached the net pens at 1511. RCAC video tape shows this boom being drawn in place at 1538 Sunday after a helicopter spotter already had reported oil at the net pens. Boom for this procedure is located in connex containers at the hatchery. Twice since the spill occurred crews were sent to do this booming but each time they were diverted.

RCAC in the past has insisted that booming of the hatchery should be an automatic operation any time oil is spilled in Port Valdez, but 18 hours after the spill it still had not been done.

A salinity barrier placed as normal procedure on the net pens probably prevented more oil from reaching inside the pen. This is a four-foot deep sheet of polyethylene held down in the water by "cannon balls." The hatchery crew added more cannon balls early in the day to make sure the barrier did not float up. The hatchery crew after 1500 came out to prepare to tow the net pen away and a volunteer landing craft showed up to tow it. The lash up for towing was expected to take 20 to 30 minutes. However, with the oil spreading the way it was and a towing speed of one knot, it's unlikely the net pens could have been taken anywhere safe from the oil at this point. As an alternative, the fish could have been released but this would have been about three weeks early decreasing their chances of survival in the ocean.

Over the course of the week, hatchery personnel said there were small amounts of oil in the pens most of the time.

REF: Drill report dated Oct. 31, 1992 on a major drill inside the port, Oct. 20-21, recommendations section specifically addresses hatchery protection.

**Below is a specific list of RCAC comments on hatchery protection after the October 20, 1992 drill and a hatchery protection exercise Nov. 21, 1992**

*"In this exercise, many of the issues raised after the Oct. 20-21 drill were addressed. In the course of this exercise, it was determined the following would be needed for adequate hatchery protection: 6 SERVS work personnel minimum. These all need to be trained in deployment of hatchery equipment.*

*2 river boats to tow boom in shallow water. SERVS does not currently have river boats, so these have to come from the terminal. This was arranged ahead of time for this exercise.*

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1-2 work boats. These can come from the marine terminal or SERVS.

1 Inflatable needed to haul supplies from the connexes to the work boats. Available from SERVS.

1 tracked vehicle for towing boom across tidal flats at low tide. Available at terminal.

1 flatbed truck to haul boom and other supplies to shoreline mooring points. Available at SERVS base.

Shoreline mooring of boom proved to be the major problem encountered in this exercise. With a 13.4-foot high tide, permanently fixed moorings on both sides of the hatchery were under water at the time of the drill. On the west side of the hatchery, boom was attached to a rock that showed above high water, but on the east side, it was attached to the roadside guard rail. When the tide dropped, the boom bridged across rocks and in places was two feet above the water or beach. In addition, the shore guardian boom was in danger of tearing either from the weight of the water in the tubes or from abrasion on the rocks.

The high tide aided in deploying the CSI boom by allowing the river boats to bring the CSI boom close to shore anchoring points, however, Shore Guardian didn't get deployed until the tide went out and thus had to be filled from dry land. The support tubes were filled with fresh water raising some fear of freezing in the tubes.

Boom maintenance also was monitored. Two hours after the initial deployment had been completed, observers found large gaps between boom and shore on the east side of the hatchery. Responsible personnel were located and then participated in a discussion on how to maintain booms once they are in place.

*COMMENT:* This drill addressed several of the points raised after the October drill, however the following points need to be addressed:

1. Automatic hatchery protection activation in case of a significant spill in Port Valdez.
2. Dedicated river boats for deploying the boom."

**VALDEZ DUCK FLATS PROTECTION:** The Duck Flats have been recognized as one of the most environmentally sensitive areas in Port Valdez. Besides providing habitat for flocks of nesting ducks, the flats also include a valuable salmon stream. In addition this spill occurred during the nesting season for a large number of Arctic Terns who were seen feeding in oiled waters. The Duck Flats also have been mentioned as a place that should be protected automatically with a discharge of oil in Port Valdez.

When oil reached the ocean perimeter of the flats by early on the second day (Monday) no booming had been attempted. During that day absorbent barriers were placed along a causeway protecting the eastern entrance to the flats, nothing was visible across the west opening into the flats. Over the course of that day there was some deflection booming attempted by boats and some absorbent sweeping. It wasn't until sometime between 0630 and 2000 Tuesday effective exclusion booming was placed across the water entries to the Duck Flats. Even then, strong currents running on and off the flats limited the effectiveness of the booms.

**BOOM STRATEGIES:**

At times with strong currents associated with the larger tides of this period oil obviously was entraining under stationary booms. On the Duck Flats the tidal current actually tore the eye bolt out of a CSI boom connection. SERVS might consider looking at fast-water booming techniques for these areas of higher current strength.

**BOOM TENDING:**

**At the ship:** At several observation times, the containment boom around the Eastern Lion was laying flat

against the hull of the ship. During this period several releases of oil came up from under the ship. The boom against the hull would allow any oil coming up from under the ship to rise outside the boom. On the inshore side the boom was held to pilings on the berth and stayed in position. At times fishing vessels were used to hold the offshore side of the boom away from the ship.

**At the hatchery:** On at least two occasions different sections of shore guardian booms were observed deflated. Monday one section of boom had been pulled underwater due to a short anchor line placed at low tide. All of these were observed corrected later, but how long they remained in that condition is unknown.

**Duck Flats:** After shore guardian was placed near the container dock, a section of it was observed deflated. This was corrected some time later

Boom tending, while boring duty, is one of the most important aspects of protecting areas from oil. Particularly in the strong tides running at this time of year it takes constant attention and this attention was not always evident. (See report comments on hatchery protection above)

#### **HELICOPTER OBSERVATIONS:**

While this spill was confined to a relatively small area there were times when more than one helicopter would have helped to direct vessel activities. Toward the end of the second day (Monday) activities had spread from the Container Dock to Anderson Bay and Mineral Creek, stretching the limits of a helicopter with a two-hour fuel supply. The helicopter observations proved effective in guiding boats to slicks and configuring booms. Without the helicopter oil might not have been spotted near the hatchery Sunday, leading to much heavier oiling. One fisherman said it seemed like every time entrainment was coming out of his boom, "the helicopter was right on us telling us to slow down."

#### **PERMIT APPLICATIONS:**

At 0600 Sunday morning an Alyeska environmental official said in a shift briefing there would be shoreline impact. It wasn't until 0820 Monday morning when oil was visible going ashore east of the Container Terminal, that the permitting process to work ashore was begun.

**TIDES:** This spill occurred during a period of extreme tides with the high building to 14.3 feet Wednesday the 25th and the low to -3.6 the same day. This is at the high end of the tidal range in Port Valdez.

**FISHING VESSEL RESPONSE:** Fishing vessels in Valdez were called out first about 2220 and the first boat checked out of the harbor about 45 minutes later with most of the rest of the first eight joining within an hour. Six vessels responded from Cordova reaching Valdez around 1730 Sunday. These included two that left behind lucrative tendering contracts on the Copper River Flats. One Valdez boat owned by a Seattle area resident was out of Valdez harbor with the first group and the owner was on the boat Monday morning. Vessels remained on scene through most of the week with the largest number decommissioned Friday and Saturday.

**SERVS RESPONSE:** The SERVS duty officer was notified approximately half an hour after the incident report. Half an hour after that the ERV Heritage Service was ordered to warm its engines. Eight minutes after that the Freedom Service, returning from an escort, but position unknown, was ordered to the scene. One hour and 21 minutes after the report, the Heritage was ordered to get under way. At that time it was a little over three

miles from the Eastern Lion. At two hours and five minutes after the incident report all ERVs in the port were ordered to have their booms ready for deployment.

<b>Time from report (hr/min)</b>	<b>Item</b>
000	Oil reported
0:30	SERVS notified
1:00	Heritage told to warm engines
1:08	Freedom told to report to scene
1:20	Fishing vessels requested
1:21	Heritage ordered under way
2:03	First fishing vessel departed harbor
2:05	All ERVs ordered to ready booms
	More fishing vessels requested

**HATCHERY RESPONSE:** While the main hatchery protection boom should have been placed earlier, once oil near the hatchery was spotted, response was quick. Steve Hood, the SERVS near shore supervisor who was in the helicopter, recognized the need, demanded quick response and got vessels moving with boom to the hatchery. He even landed to mobilize crews unavailable by radio.

**VALDEZ STAR:** The Valdez Star seemed particularly suited to this kind of spill. It remained on scene skimming where required through the entire response and its Captain Sonny Madden aided in directing boats to slicks the Star was missing. While the collected quantities reported by the Star were well below its nameplate expectations, what the vessel did collect reportedly included a high percentage of oil.

**RECOVERY REPORTS:** Word was passed early to make precise recovery quantity reports. Estimates were to be conservative. Although one vessel did report the standard 20 per cent oil which proved otherwise later, most reports appeared to be a fair quantity.

**AGENCY NOTIFICATION:** Notification of Alaska Department of Environmental Conservation and the U.S. Coast Guard came within minutes after the spill was discovered. RCAC was notified through indirect channels, then officially by British Petroleum around 0245. No formal notification came to RCAC from Alyeska or SERVS

**COOPERATION AND ACCESS:** Cooperation with RCAC by the operation managers was easily forthcoming. John Baldrige in particular made sure the RCAC spill observer was briefed on the situation and escorted the observer to the ship. RCAC had access to all operations and SERVS found ways to give transport when the situation allowed. For the most part meetings by Alyeska and BP were open and printed materials available. There were only two exceptions to this:

1. RCAC observer was ordered off the ship by an Alyeska supervisor. Once the observer's duties and obligations were explained this was resolved.
2. In a tour of the response area by skiff, the U.S. Coast Guard threatened to bring the RCAC observer and the RCAC chairman up on charges for violating the security zone around operations. This was after permission had been requested and received and notification given upon departure from the small boat harbor.

Later the Coast Guard apologized for the incident and Alyeska President David Pritchard assured RCAC chairman Stan Stephens that the RCAC observers had been well within their purview.

**BP RESPONSE:** The British Petroleum response was quick and decisive. While questions remain as to responsibility for the spill because BP does not own the ship, BP mounted a response equal to or in excess of the need generated by the spill. Personnel arrived in Valdez as early as 0730 Sunday and by Monday afternoon 40 persons including five from BP's Cleveland headquarters were on scene working with Alyeska to effect the transfer of management. BP also sent representatives to Prince William Sound Communities. The approach appeared professional and with an attitude toward doing all that was necessary to manage the response. Over the previous 16 months BP had sponsored a series of drills related to oil spill response. They began with a three-day table top exercise in Anchorage in November 1992. In June 1993 BP began a three part response drill with a telephone callout exercise, continued in August with a two-day "ramp-up" exercise and completed the drills with two days of on-water and ICS exercises in October. From this BP people arrived on the scene with experience from the drills relatively fresh in mind.

BP personnel were accessible and candid in their dealings with RCAC.

**SUPPLIES:** The nature of this spill demanded the use of a lot of expendables like absorbent booms. There appeared to be a sufficient supply of these materials and they were readily available when required. Wednesday some materials were running thin but sufficient supplies remained to outfit the demands of the response. BP by Wednesday had replacement supplies on their way to Valdez with some items scheduled for arrival that evening.

**SAFETY:** Initial response fishing vessels were not issued respirators nor were they told what the atmospheric tests showed. This despite the word of an Alyeska environmental officer who said all crews were wearing respirators. SERVS' response to this is that no fishing vessel would be sent into a hazardous atmosphere where anyone would have to wear respirators. For one reason, they don't want to send a source of spark into a potentially explosive atmosphere. Personal protective equipment was issued only after fishing vessel operators requested it when they started retrieving oiled absorbent boom.

Three vessels hit a rock on the south side of Saw Island: a SERVS work skiff, a fishing vessel and a Lori Brush skimmer.

**LABOR:** SERVS workers on boats and on shore worked long and sometimes hard hours. Yet, every chore was attacked as quickly as the orders were given and there was very little evidence of anything but high quality professional effort. There was very little sign of any kind of friction in the ranks.



### FISHING VESSEL OPERATOR COMMENTS

1. Thought over all it was good experience. Experimenting at first but finally got it right. Provisions and fuel supplies (vessel support) was good.
2. It went pretty well and they're (SERVS) getting better. The helicopter was right on you if you were entraining telling you to slow down.
3. We've been training for three or four years on this and when something happens the plan went right out the window. We were one of the first boats and were never told what the atmosphere was, never given respirators or any other PPE. We couldn't get in touch to tell someone where oil was. The supervisors kept changing. We never knew what task force we were in. We need lights on booms. Ours was nearly run over by a tanker that wouldn't talk to us.
- 4) Thought it went remarkably well. It caught everybody by surprise. I saw some slight variations in command and control early. They were kind of shooting from the hip. But the got it straightened out after the first day. (This was one of the first boats) Was not warned of atmosphere or given respirators. Never did detect any odors.
- 5) Generally thought they had put it all together and was somewhat impressed with the amount of effort put out. You have to look five years back and see what would have happened and then you have to look five years ahead at what's possible. It's slowly evolving. Thought that with oil escaping initial containment you could snap a small skimmer into the boom and let the sides angle to the skimmer..  
Pointed out the currents and tides and described one situation in which a supervisor changed boats' positions based on the tide tables. The boats set up to meet the new direction of current but it continued running in the opposite direction for about two hours. He pointed out that not only do the tides not meet the predictions but that the currents change with each tide. For instance you will get a different current on a 9 foot tide than you would get on a 14-footer.
- 6)Thought it went pretty well. They should try to get some rotation so guys can sleep. When the tanker left and some oil came up I was surprised at how much was captured. They used those absorbent sweeps and I was right behind the first boom and no oil came through.
- 7) Cordova boat was sent to the Valdez Small Boat Harbor to stand by. Actually had to pay moorage while waiting to work on spill.
- 8) They seemed under staffed on the fishing vessels. It was not confusing, there was an order to it.
- 9) When we got there it was a little chaotic for an hour but then settled down. We got assigned to a Lori Brush, a pretty nice piece of equipment, but it looked like it was designed by someone from Phoenix. Front end worked, but it was under powered, had poor steering and rigging. They should have permanent buoys in place at the Duck Flats and the hatchery and the buoys shouldn't be too far apart. They should put more than they think they need because of the currents there.

The CSI boom is too small, even the Ro boom is too small when the tide was running around the flats. They need a bigger chain on the bottom. Stuff was splashing over the boom because of the afternoon sea breeze.

10) They're expecting skippers and crewmen to work 24 hours a day when everybody else was taking time off. Alycska should come back and pay the skipper and crew, regular payroll.

11) They should either have twice as many boats or hire double crews. One or two days a guy can make it. After that it gets to be too much.

12) We were up all night moving the anchors on the boom at the hatchery.

13) We thought we would get groceries after three days. They need to get groceries to the boats.

14) There was no near shore program. There needs to be a fisherman up there with the supervisor, someone who's familiar with the boats and their capabilities. Some of the requests could have been done better and safer with smaller boats. Putting absorbents inside the booms.

15) This happened in ideal conditions. But with any weather would have caused problems with the boom rolling under. We thought we'd be rotating boats so we didn't sleep for 48 hours. It was pretty hard on a lot of us. We went four days without relief then got three hours and they woke us up again.

16) SERVS, when they changed shifts, they never told the new guy what was going on. They were always calling and asking what you were doing. If the new crew came on an hour ahead of time they could get a handle on it.

17) We were assigned to the Valdez Star and then released. Once we were turned loose from the boom there was nobody to assign us somewhere else.

18) On drills, even on the Exxon Valdez, crews worked 12 hours, maybe 18. Working 24 hours after about two days, guy's tired. They need to shut down, also to make engine checks.

19) There was a lack of communications. At one time we were sent to stand by. We could have rested if we hadn't had to maintain the radio watch. Then they told us to get some rest, so we did and three hours later somebody came pounding on the boat. We could have gotten eight hours sleep.

20) We had very little information on the situation.

21) They should find a way to put Velcro strips or something on the CSI boom, a way to attach the absorbents. We towed boom and collected oil, then they never came with a skimmer to pick it up. A couple of guys doubled up their absorbent. It rolled as they towed it and it did good. They'd be going through sheen and behind them, no sheen. There was a good two inches of sheen on the backside of the ship boom all the time.

22) Did they every use any Petronet boom? That's real good on sheen. Could make something like that rope mop to squeeze the oil out of it. In the Exxon Valdez it was the only boom that picked up weathered oil. We could have used a lot more boats, a lot more boom.

23) Had trouble in Cordova finding crew. Four bowpickers couldn't find a second person so they couldn't respond.

24) It would help to know who all the numbers are. It was hard to keep track of who was in charge.

25) When they're talking to people they should keep in mind guys have been up a long time. One fellow was gruff with a fishing vessel and the guy just said he'd had it and went home.

26) I'm sure a lot of oil got away into the sound on those big tides.

## ITEMS OF VALUE TO FUTURE RESPONSES

**TRAJECTORY TIMING:** *Note* : All of the movement mentioned below occurred in calm winds with light afternoon sea breezes. Times could expect to be shortened depending on the strength and direction of the wind.

**HATCHERY PROTECTION:** Oil was reported at Allison Point at 1400, 17 hours after the first report of the spill.

It was reported at the net pens at 1511, 18 hours, 11 minutes after the initial report. This occurred over a period of calm winds. Until 1400 oil had not been reported east of Berth 1.

The spill occurred on a flood tide with a general easterly set toward the hatchery for approximately 2 hours. At around 2300 high tide the current went slack then changed to a westerly set carrying oil to the west away from the hatchery. The tide changed again at 0544 and the flood ran until 1159. However currents at Allison Point and east continued westerly until close to 1500.

At the time of the low tide the oil had not passed Berth 3.

**Potentials:** If the spill had occurred at the beginning of the flood, oil conceivably could have reached the hatchery in as little as three hours.

Also oil can move from Allison Point to the hatchery in one hour just on currents with no wind.

### VALDEZ DUCK FLATS PROTECTION.

Oil was observed approaching the Duck Flats on the tide rip at 0538 Monday with some oil in the intertidal area. This was 33 hours after the spill was reported. Again this was with the first nine hours of the spill carrying the oil away. This followed six tide cycles with the flood just beginning. Also, the set of the

## GLOSSARY

- CSI:** A light duty harbor boom. Its flotation is similar to the material used in life vests. Yellow. There is a slightly heavier version of CSI that is black. Called Summer boom at the terminal.
- DESMI 250:** A weir skimmer based on the Desmi DOP pump. It consists of three floats supporting the weir and pump. Capacity 440 barrels per hour. It is used with the Coast Guard VOSS system and in nearshore work.
- ENERGIZER:** Nearshore barge as of 4/94. 2 Doseq Arms. 15,000 feet of assorted booms, skimmers, near shore support equipment. Capacity 73,000 barrels.
- ENTRAINMENT:** The effect of water currents against a boom forcing oil under water in front of the boom and allowing it to rise behind. This can be caused by towing a boom too fast or by strong current. Recommended towing speed is 3/4 knot or less.
- ERV** Emergency Response Vessel. These 299-foot vessels are used for escorting ships in transit and for boom and barge control in an oil spill response. They carry a variety of response equipment including 1,500 feet of Vikoma Ocean Boom, 3,000 feet of deflection boom, skiffs, Sea Skimmer 50s and a crew trained in their operation.
- JBF:** A self-propelled dynamic incline skimmer. A moving belt forces oil under water and back to a well where its buoyancy lets it rise into a 1,500 gallon collection well within the hull. From there recovered liquids can be pumped to storage of 2,500 gallons.
- KEPNER SEA CURTAIN BOOM:** A self-inflating collection and deflection boom. This boom is carried on the ERVs for use in deflecting oil into the Vikoma Ocean Boom of a Transrec Task Force. Each ERV carries two reels of 1,500 feet each.
- LEL:** Lower explosive limit. A measure of the combustibility of the atmosphere around an oil spill.
- LORI BRUSH SKIMMER:** This is a small rope mop skimmer mounted on a self-propelled barge that holds approximately 20 barrels of collected liquids.
- MARCO:** Rated at Class v and Class VII: A self-propelled skimmer with a nameplate recovery rate of 100-400 gallons per minute with storage for 80 barrels.
- OLEOPHILIC SKIMMER** This type of skimmer operates on a principle of oil adhering to some material moved through the water, then removed with scraping or scrubbing. Types of oleophilic skimmers include the Sea Skimmer 50 which has discs that rotated through the oil and the rope mop variations which trail material through the oil and wring it off the mop.
- POLLUTANK:** An inflatable 600 barrel storage barge used in near shore operations. A fishing vessel tows it to a collection boom and pumps oil from the boom into the barge.
- RO-BOOM:** This boom was designed for offshore containment duties. It is made of conveyor belt material and individual sections are inflated with air during deployment. This is the principal collection boom used in nearshore operations. It comes in several weights, including the RO-2000 and the RO- 1100 used by SERVS and RO 1500 used for booming tankers at the berths.

**ROPE MOP SKIMMER:** An oleophilic type. Ropes made of material that oil will adhere to are drawn through the water, circulating through a skimmer head that squeezes the oil from the collection rope. Lori Brush, Vertical Rope Mop.

**SEA SKIMMER 50** This is an oleophilic disc skimmer deployed from the deck of an ERV to supplement other skimming operations. Two of these are carried aboard each ERV. Capacity: 350 barrels per hour.

**SHORE GUARDIAN BOOM:** This boom is designed for use in the inter tidal zone. It has three tubes. Two on the bottom are filled with water and one on top with air for flotation. When tide goes out the boom settles on the beach forming a seal and held upright by the weight of the water tubes. When lifted by the incoming tide the air filled tube provides flotation. International orange.

**ULLAGE** The precise measurement between the top of a cargo tank and the top of the cargo. It is considered an accurate measurement of the quantity of the cargo.

**VALDEZ STAR** This vessel was designed for the Alyeska oil spill response effort. It is a dynamic incline skimmer which means it moves through the water skimming. It has a skimming capacity of 2,000 barrels per hour and can hold 1,309 barrels of liquid.

**VIKOMA OCEAN BOOM** This is a heavy duty open water boom inflated by an air pump aboard the controlling vessel. A water pump fills a lower tube in the boom to give it ballast to remain upright in the water. Each ERV carries 1,650 feet of this boom.



**Preliminary figures on liquids and oils recovered.**

As of Thursday June 2.

<b>Source</b>	<b>Oil recovered</b>	<b>Water recovered</b>	<b>Total Liquid</b>
Barge Allison Creek	74 barrels	712.2 bbl	786.2 bbl

Krystal Sea (IMO tank) This tank remained to be gauged. It had approximately 6.5 total inches of liquid in it with about 1 inch of oil on top. Estimated 40-50 gallons of oil.

In barrels This was expected to be mostly oil but had yet to be gauged. 15.07 barrels

The most optimistic expectation of oil recovered from these figures adds up to 89 barrels plus 45 gallons. This does not include what was recovered on absorbents.

