Alaska Department of Environmental Conservation

Division of Spill Prevention and Response

Industry Preparedness Program

Trans Alaska Pipeline System (TAPS) Pipeline

Oil Discharge Prevention and Contingency Plan

Renewal Application

Findings Document

November 30, 2011

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INTRODUCTION

What is this Document?
This document presents the final findings of the Alaska Department of Environmental Conservation (department) concerning the contents of the Alyeska Pipeline Service Company (APSC) Trans Alaska Pipeline System (TAPS) Pipeline Oil Discharge Prevention and Contingency Plan (Cplan or plan) renewal application dated May 16, 2011, with additional information and edits submitted September 16, 2011 and October 3, 2011.

The department's review of the TAPS Pipeline Cplan was conducted in accordance with review procedures found in 18 AAC 75.455. These regulations establish a requirement for a 30-day public comment period. During the review process, the department found it necessary to request additional information from the plan holder to complete its review. After extending the public comment period to provide additional time for the public to comment on the additional information provided by Alyeska, the department closed the public comment period on November 2, 2011 at 5:00pm.

These findings were written as a result of an extensive review of the renewal application, careful attention to the final decision of the adjudication of the 2006 TAPS Cplan renewal application, and consideration of public comments received during the public comment period. The findings are presented to assist the plan holder, the interested public and participating reviewers in understanding the analysis of priority issues through which the department reached its decision to conditionally approve renewal of the TAPS Pipeline Cplan. This document also addresses the most substantive issues raised by plan review participants during the comment period.

Concurrent Review by other Agencies
It is important to note that while the department is the State agency with authority to approve the TAPS Pipeline Cplan, the federal Bureau of Land Management (BLM) has separate authorities and approval criteria provided in the TAPS Agreement and Grant of Right-of-Way. BLM approves the TAPS Pipeline Cplan annually. During this review the department has consulted with numerous federal and state agency representatives. Because the department and BLM have different authorities and review criteria, the department's approval decision and findings document will not necessarily reflect the same issues or requirements of approval that may be developed in BLM's review. While one agency's requirements may be more extensive than the other, it is expected that the two approvals will be complimentary rather than conflicting.

What Does it Mean When a Contingency Plan is Approved with Conditions?
A plan is approved when a plan holder has demonstrated in the plan that a level of prevention and readiness has been achieved that will prevent a spill as specified in the department's statutes and regulations, and if a spill should occur that the plan holder can effectively respond. The department does not make its decision to approve a plan based on the operator proving everything in the plan, but rather upon the reasonableness of assertions and evidence that certain essential resources and practices are secured. Therefore, the department's work does not end

once the contingency plan is approved. The contingency plan approval is only a portion, although a major one, of the entire program of spill prevention and response. Many follow-up field tasks are done to proof the plan and assure that persons assigned response and prevention duties are trained and ready to respond if need be. The tasks range from both planned and unannounced inspections and oil spill exercises, surveillance of field operations, training audits, third party engineering inspections to check for structural integrity of tanks and piping, and applying lessons learned from actual incident responses. In some cases the plan holder is not required to fully document how they will implement oil spill prevention and response requirements in the contingency plan. Nonetheless, the plan holder is required to fully implement all oil spill prevention and response programs required by State statutes and regulations even if those programs are not documented in the approved contingency plan.

The TAPS Pipeline Cplan was previously reviewed and approved by the department on November 30, 2006. Since that time it has undergone several amendments. Approved plans may be modified through an amendment application process outlined in State regulations. For major amendments, the same approval procedures are followed, and the same guidelines and standards are utilized as for approving plan renewals. The previous edition of the Cplan had 26 conditions of approval attached to it. The reason for so many conditions was that the plan underwent a substantial change in format due to Alyeska's facility improvement project known as Strategic Reconfiguration. The conditions of approval were met by the plan holder during the last approval cycle.

When a plan is approved with conditions, those conditions must be completed in the manner and schedule outlined in the approval documents. They are enforceable by the department, and there are a variety of remedies available to the department if the conditions are not satisfied. The conditions attached to this approval are substantive and reflect work that must be completed in order to ensure the TAPS Pipeline Cplan is in compliance with State statutory and regulatory requirements. Each condition attached to the approval includes a description of the work to be done and a schedule for its completion.

Format for This Document:
The department has identified 5 major topics for discussion which are called "Issues" in this Findings Document. The Issues in this paper are included because they provide explanation of the basis for the department's approval and conditions of approval or because they respond to substantive adverse comments from public reviewers. At the end of this document several items are identified as "other comments received." This section is intended to briefly address comments that are beyond the department's statutory or regulatory authority.

This document uses the following format to address each of the selected topics:

(1) Statement of Issue

(2) Findings

(3) Regulatory Authority

(4) Response to Comments and Basis for Decision

The department has benefited from and appreciates the contribution of individuals and organizations during the public process of reviewing and approving the TAPS Pipeline Cplan. Any questions concerning these findings may be directed to Graham Wood at (907) 269-6494.

ACRONYMS

AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
ADNR	Alaska Department of Natural Resources
ADF&G	Alaska Department of Fish and Game
APC	Area of Public Concern
APSC	Alyeska Pipeline Service Company
AS	Alaska Statute
BAT	Best Available Technology
BLM	Bureau of Land Management (U. S. Dept. of the Interior)
COA	Condition of Approval
COTP	Crude Oil Transmission Pipeline
Cplan	Contingency Plan (Oil Discharge Prevention and Contingency Plan)
EPA	Environmental Protection Agency
ESA	Environmentally Sensitive Area
JPO	Joint Pipeline Office
ICS	Incident Command System
LVB	Line Volume Balance Leak Detection System
OPA 90	Oil Pollution Act of 1990
PHMSA	Pipeline Hazardous Materials and Safety Administration
PWS	Prince William Sound
RFAI	Request for Additional Information
RPG	Response Planning Group
RPS	Response Planning Standard
SCP	Subarea Contingency Plan
SHPO	State Historic Preservation Officer
TAPS	Trans Alaska Pipeline System
TVB	Transient Volume Balance Leak Detection System
USDOT	U. S. Department of Transportation
VMT	Valdez Marine Terminal

Issue No. 1: Protection of Environmentally Sensitive Areas and Areas of Public Concern in the Copper River and other locations in the TAPS Pipeline corridor

Statement of Issue

On September 19, 2011 the Commissioner of Environmental Conservation issued a Decision on an adjudicatory hearing to challenge the approval of the TAPS Cplan in 2006[1]. The decision affirmed the 2006 approval and provided direction to the department to specifically consider and address the following questions concerning protection of environmentally sensitive areas and areas of public concern in the Copper River and in other locations in the TAPS Pipeline corridor. The following statements, findings, and discussion respond to the September 19, 2011 Decision.

1) Might the following seven specific candidate Environmentally Sensitive Areas (ESAs) and Areas of Public Concern (APCs) identified by Cascadia Wildlands Project and other requestors (Cascadia) during the adjudication hearing be impacted by any of the oil discharge scenarios in the renewed TAPS Cplan?

- Abercrombie Rapids
- Bremner Sands
- Copper River, including the Delta and Flats
- Gulkana River
- Klutina River
- Tazlina River
- Wrangell-St. Elias National Park and Preserve

2) Could the discharges depicted in hypothetical discharge scenarios in the TAPS Cplan impact areas that are ESAs or APCs within the meaning of 18 AAC 75.990(5) & (35)?

3) Does the TAPS Cplan's preparedness demonstration (in the RPS scenario, response strategies and tactics descriptions, Environmental Atlas, Environmental Sensitivities descriptions, and the Unified Plan, including Subarea Contingency Plans for Prince William Sound, Interior, and North Slope) show the ability to exclude oil from identified ESAs and APCs?

4) What is the rationale for whether or not to include a requirement that ESAs and APCs be identified for all additional non-response planning scenario[2] oil discharge scenarios that are part of the TAPS Cplan?

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[1] Commissioner Larry Hartig, Department of Environmental Conservation, DECISION OAH No. 07-0496-DEC, Contingency Plan Amend No. 06-CP-4071, September 19, 2011

[2] Commissioner Larry Hartig, Department of Environmental Conservation, DECISION OAH No. 07-0496-DEC, Contingency Plan Amend No. 06-CP-4071, see discussion of "additional (non-response planning-standard) scenarios" concerning the question of whether and to what extent they must identify ESAs and APCs, September 19, 2011, pp. 28 - 30

Findings

1) Seven Cascadia Candidate ESAs and APCs

The department finds that the seven specific candidate Environmentally Sensitive Areas and Areas of Public Concern identified by Cascadia and highlighted in the September 19, 2011 Decision will not be impacted by two of the three oil discharge scenarios in the Copper River drainage area in the renewed TAPS Cplan. Specifically, these candidate areas will not be impacted by Scenario #11 or Scenario #13. The third plan scenario is the Gulkana River scenario (Scenario #12), and it is written for the specific purpose of demonstrating response strategies and tactics in the Gulkana River. There is no assumption that the failure mechanisms used to create this hypothetical scenario are either reasonable or likely. See the discussion below concerning the department's direction to the plan holder in developing scenarios specifically to demonstrate tactics for on-water scenarios, even if they are located in water bodies that contain or might contain ESAs or APCs.

2) Potential for Hypothetical Discharges in Cplan to Impact ESAs and APCs

The discharges depicted in the hypothetical discharge scenarios in the TAPS Cplan could potentially impact areas that are ESAs or APCs. However, the scenarios were developed for the purpose of demonstrating response tactics should key oil spill prevention measures required by the department and other regulatory agencies fail in unexpected or unrealistic ways. During the original development of the non-RPS scenarios, the plan holder was directed by the department to create unreasonable failures in prevention requirements for the specific purpose of getting oil into the water, much of which would or could be identified as an ESA. For example, unreasonable failure mechanisms for the response scenarios include major secondary containment failures and a guillotine break in the pipeline over a stream that feeds into a river that provides critical habitat to anadromous fish. The department had the plan holder develop scenarios that included releasing oil into sensitive areas to drive response planning that goes beyond the RPS scenario. Nonetheless, given the large number of known and potential ESAs and APCs along the TAPS pipeline corridor, the department believes this requirement is justified to expand the demonstration of response capability in various receiving environments, seasonal conditions and in critical locations.

3) Does the Cplan Demonstrate the Ability to Exclude Oil from ESAs and APCs?

Even though non-RPS scenarios include failures that will discharge oil in unexpected and highly unlikely ways, their importance is in developing and demonstrating response tactics that exceed the RPS scenario planning standard. With the exception of scenario #10, there are no scenarios in the TAPS Cplan that do not occur either in the vicinity of ESAs and APCs, or perhaps directly into them (note specifically scenario #8, Yukon River Winter.) Each scenario identifies ESAs and APCs that may be at the location, adjacent or in the vicinity of the incident location, or downstream of the release point.[3] The department finds that requiring this type of scenario and

[3] TAPS Oil Discharge Prevention and Contingency Plan (Cplan), Vol. 2, Ed. 2, Rev. 0, Public Review 2011: Scenario 1 – Environmental Considerations – Salcha River Contingency Area, Segment 5 p. 1-2; Scenario 2 – Environmental Considerations – Tazlina [*sic*] River, Segment 1 (description is for Putuligayuk (Put) River ESAs

requiring the plan holder to identify ESAs and APCs – even if it is unlikely that they would be impacted by a real event – provides an appropriate measure of response planning.

4) Rationale for ESAs and APCs in Additional (non-RPS) Scenarios
The department has required for years that the additional or non-RPS scenarios also include information about environmental sensitivities and APCs in the vicinity of those hypothetical discharges. As indicated above, this is not to create the impression that the department finds these failures are either likely or realistic, but rather to highlight the complexity of the lands and waters through which the TAPS Pipeline transits, and to require a level of response planning that exceeds that of the RPS scenario. The non-RPS scenarios depict response in various seasons and receiving environments, including ESAs. For this reason, it is prudent that non-RPS scenarios include information on environmental sensitivities, critical habitat, seasonal sensitivities, and specific locations of raptor nests, nearby public drinking water systems, and the like.

The TAPS Cplan as a whole, including the RPS scenario, strategies and tactics, the Environmental Atlas, the incident command system, detailed containment site deployment instructions, maps, response action contractor roles, and non-RPS scenarios demonstrate that the plan holder meets the planning requirements for responding to an oil discharge and protection of ESAs and APCs.

Regulatory Authority
Statutes at AS 46.04.030(e) states "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...."

The regulation under 18 AAC 75.425(e)(1)(F)(v) requires: "...for a stationary facility or operation...a description of site specific strategies for the protection of environmentally sensitive areas and areas of public concern identified under (3)(J) of this subsection, including for a land-based facility or railroad, protection of ground water and public water supplies;...."

The regulation under 18 AAC 75.445(d) states ".....The response strategies must take into account the type of product discharged and must demonstrate that ...(4) sufficient oil discharge response equipment, personnel, and other resources are maintained and available for the specific purpose of preventing discharged oil from entering an environmentally sensitive area or an area

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and APCs,) p. 2-2; Scenario 4 – Environmental Considerations – Dietrich River, Segment 3, p. 4-2; Scenario 4 – Environmental Considerations – Jim River, Segment 7, p. 5-2; Scenario 6 – Environmental Considerations, Jim River area, p. 6-2; Scenario 7 – Environmental Considerations – Ray River Contingency Area, Segment 1, p. 7-2; Scenario 8 – Environmental Considerations, Yukon River, p. 8-2; Scenario 9 – Environmental Considerations, Yukon River, p. 9-2; Scenario 10 – Environmental Considerations, Pump Station 9, Segment 4, p. 10-2; Scenario 12 – Environmental Considerations – Gulkana River, Segment 1, p. 12-2; and RFAI Response, September 16, 2011, RFAI 21: Scenario 3 – Environmental Considerations, Sag River, p. 3-2; RFAI 22: Scenario 11 – Environmental Considerations – Dry Creek, Segment 1, p. 11-2; RFAI 23: Scenario 13 – Environmental Considerations – Little Tonsina River ,Segments 1-5, p. 13-2.

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...."

Plan holders are required to provide specific information regarding the protection of ESAs and APCs under 18 AAC 75.425(e)(3)(J):

> ...for a stationary facility or operation...mapped predictions of discharge movement, spreading, and probable points of contact, based on expected local, seasonal, meteorologic, and oceanographic or topographic conditions; and, for each probably point of contact, a description of each environmentally sensitive area and each area of public concern, including:
>
> (i) the effect of seasonal conditions on the sensitivity of each area;
> (ii) a discussion of the toxicity effects and persistence of the discharge, based on type of product; and
> (iii) an identification of which areas will be given priority attention if a discharge occurs.....

Regulatory definitions that are important for this discussion include:

18 AAC 75.990(35) "environmentally sensitive area" means a geographic area that, in the department's determination, is especially sensitive to change or alteration, including (A) an area of unique, scarce, fragile, or vulnerable natural habitat; (B) an area of high natural productivity or essential habitat for living organisms; (C) an area of unique geologic or topographic significance that is susceptible to a discharge; (D) an area needed to protect, maintain, or replenish land or resources, including floodplains, aquifer recharge areas, beaches, and offshore sand deposits; (E) a state or federal critical habitat, refuge, park, wilderness area, or other designated park, refuge, or preserve; and (F) an area that merits special attention as defined at 6 AAC 80.170....

18 AAC 75.990(5) "area of public concern" means a geographic area that, in the department's judgment, deserves special protection from an oil discharge, including (A) an area of unique cultural value, historical significance, or scenic importance; (B) an area of substantial residential or public recreational value or opportunity; (C) an area where fish hatcheries or other facilities primarily dependent upon the use of potentially affected water are located; (D) an area significantly used for commercial, sport, or subsistence hunting, fishing, and gathering; and (E) an area where concentrations of terrestrial or marine mammals or bird populations primarily dependent on the marine environment are located....

Response to Comments and Basis for Decision

1) Seven Cascadia Candidate ESAs and APCs

During the plan review, the department issued a request for additional information (RFAI) to APSC to address whether Cascadia's seven candidate ESAs or APCs would be impacted by spill Scenarios #11 (Milepost 676) and #13 (Little Tonsina). Subsequently the Commissioner's decision on the appeal directed staff to consider whether any of the non-RPS scenarios in the Copper River drainage area would impact those seven candidate sites. APSC submitted their RFAI response on September 16, 2011 addressing Scenarios #11 and #13, and the department considered the potential for impact to the candidate sites in the context of Scenario #12 (Gulkana River). A discussion of the potential impacts from the three hypothetical non-RPS scenarios follows.

- For Scenario #11, APSC stated "The Milepost 676 spill volumes as described in Scenario #11 are not expected to impact the seven areas identified in the RFAI, or waters of the Copper River. The date of the scenario (November 3rd) is a time when there is little or no water flow in Dry Creek, and the containment and recovery tactics listed in the scenario at Containment Sites 10-18 and 10-19 on Dry Creek prevent further migration of oil toward the Copper River."[4]

  Scenario #11 meets the requirements of 18 AAC 75.425(e)(1)(F) for providing additional response strategies to account for variations in receiving environments and seasonal conditions. This scenario also meets the approval requirement found at 18 AAC 75.445(d)(4) that ensures a plan holder has sufficiently addressed the protection of ESAs and APCs by identifying equipment, personnel and other resources as required. Specifically, Table MP676.1 in Scenario #11 gives timeframes and actions taken to prevent the spread of oil and to protect ESA's and APC's. The tactics used in Scenario #11 are described in Volume 3 of the plan, and the equipment is listed in Volume 1 Section 3.6 as required by 18 AAC 75.425(e)(3)(F). Therefore, the department finds that Scenario #11 will not impact the seven areas identified by Cascadia and that the scenario demonstrates an adequate number of personnel and response equipment to respond to the hypothetical scenario discharge.

- For Scenario #13, APSC stated that a discharge as described in Scenario #13 is "...not expected to impact the seven areas identified in the RFAI, or the waters of the Copper River. The oil does not enter the Tonsina River and does not impact any other river bodies. The containment and recovery tactics as listed in the scenario at Containment Sites 11-7 and 11-6, in addition to the low flow rate (1.7 mph) of the winding Little Tonsina River, prevent further migration of oil toward the Copper River."[5]

[4] APSC Government Letter No. 24290, RFAI Response Package, September 16, 2011, p. 16
[5] APSC Government Letter No. 24290, RFAI Response Package, September 16, 2011, p. 17

Scenario #13 meets the requirements of 18 AAC 75.425(e)(1)(F) for providing additional response strategies to account for variations in receiving environments and seasonal conditions, and it meets the approval criteria at 18 AAC 75.445 (d)(4) by identifying response equipment, personnel, and other resources as required. Table LTONS.1 gives timeframes and actions taken by personnel to prevent the spread of oil, and to protect ESA's and APC's. The tactics used in Scenario #13 are described in Volume 3 of the plan, and the equipment is listed in Volume 1, Section 3.6 of the plan as required by 18 AAC 75.425(e)(3)(F). Therefore, the department finds that Scenario #13 gives detailed information on how the plan holder will prevent the spread of oil to the seven areas identified by Cascadia and that the scenario demonstrates an adequate number of personnel and amount of response equipment to respond to the hypothetical discharge described in the scenario.

- Scenario #12 (Gulkana River) is a third non-RPS hypothetical discharge scenario located in the Copper River drainage area. The September 19, 2011 decision did not specifically question whether this scenario met the standards for protection of ESAs and APCs listed above, but it is a scenario located in the Copper River drainage area. The department conducted a careful review of this scenario for the renewal plan and finds that the scenario appropriately addresses identification and protection of ESAs and APCs. It is important to note that this scenario is written to specifically discharge oil into the Gulkana River, one of the seven candidate ESAs or APCs identified in the 2006 adjudicatory hearing. As such, it does not demonstrate preventing oil from reaching the river. It demonstrates strategies, tactics, and use of areas of opportunity that would limit the spread of oil further downstream toward additional ESAs or APCs. The scenario also depicts plans for implementing drinking water supply needs for the Village of Gulkana, which is an APC specifically identified at risk in the scenario. See the discussion below in 2) for more on the non-RPS scenarios and the potential for impact to ESAs and APCs depicted in some of them.

It should be noted that APSC's RFAI response goes on to describe that cultural resources are specifically not identified in discharge scenarios or other parts of the Cplan or its supporting documents in order to maintain preservation of those areas. In the event of a spill APSC will work with the State Historic Preservation Officer (SHPO) to determine whether cultural resources are in the spill impact area. This is applicable to all of the hypothetical discharge scenarios in the TAPS Cplan.

2) Potential for Hypothetical Discharges in Cplan to Impact ESAs and APCs

The discharges depicted in the non-RPS hypothetical discharge scenarios in the TAPS Cplan could potentially impact areas that are ESAs or APCs. However, the scenarios were developed for the purpose of demonstrating response tactics in various receiving environments and seasonal conditions. During the development of the non-RPS scenarios, the plan holder was directed by the department to create unreasonable failures in prevention requirements for the specific purpose of getting oil into the water, much of which could be identified as an ESA. For example

unreasonable failure mechanisms for the response scenarios include secondary containment failures and a guillotine break in the pipeline over a stream that feeds into a river that provides critical habitat to anadromous fish. The purpose was to drive response planning that goes beyond the RPS scenario. Nonetheless, given the large number of known and potential ESAs and APCs along the TAPS pipeline corridor, the department believes this requirement is justified to expand the demonstration of response capability in various receiving environments, seasonal conditions and in critical locations.

In its review of the TAPS Cplan for renewal, department staff carefully reviewed each scenario to verify that they contained information identifying ESAs or APCs within the discharge trajectory and to verify that they had strategies and tactics designed to prevent oil from reaching them. The exception to this is when scenarios are written specifically to drive oil into waters with known sensitive resources or that could, without intervention, carry oil to downstream sensitive areas in order to demonstrate the means for limiting spread of the oil. Each scenario describes environmentally sensitive resources either downstream or in the near vicinity of the discharge location and indicates their sensitivity according to the season or environmental condition expected at the scenario date. In all cases, the overall strategy demonstrated in each scenario is to protect ESAs and APCs from being impacted by discharged oil by containing and controlling oil as close to the discharge point as possible to prevent its spread downstream. The scenarios, together with response strategies and tactics descriptions, Environmental Atlas, Environmental Sensitivities descriptions, and the Unified Plan, including Subarea Contingency Plans, demonstrate that plans, environmental and wildlife resource information, response resources and tactics are capable of protecting ESAs and APCs.

This finding should not be taken to suggest that APSC or any operator can guarantee - even with extensive planning efforts - that in a real event there will be no impacts to important sensitive areas. It would be impossible for APSC to make such a proposal, and the department could not accept that oil discharged from the TAPS pipeline could not possibly reach an ESA or APC (Alyeska has *not* proposed this). The TAPS pipeline crosses or passes in close proximity to many migration routes, raptor nesting locations, rivers with critical habitat for resident and anadromous fish populations, and communities that rely on those rivers for drinking water, subsistence, and/or commercial purposes. Hypothetical non-RPS scenarios that place oil into waters that are ESAs or APCs or have the potential for carrying discharged oil to greater numbers of impact areas regardless of the likelihood of their occurrence are an important and appropriate planning tool. For this reason, the department finds that although the non-RPS scenarios depict potential for impact to ESAs and APCs, they should be included in APSC's planning regime, and that it is beneficial to include non-realistic failures as a means of moving oil into sensitive locations for response planning purposes.

3) Does the Cplan Demonstrate the Ability to Exclude Oil from ESAs and APCs?

The hypothetical discharge scenarios described above form *a part* of the overall finding of whether the TAPS Cplan demonstrates planning and preparedness to prevent discharged oil from reaching ESAs and APCs. While scenarios demonstrate response to specific hypothetical

situations, the Cplan as a whole must be considered as well. The ability to prevent oil from reaching ESAs and APCs is demonstrated in the Cplan through a combination of its response action plan, the prevention plan, scenarios and supplemental information, and specifically through the RPS scenario. The Cplan includes extensive descriptions of the Incident Command System designed to expand from the initial response team to many responders with necessary skills to attack the leading edge, implement protective containment, provide for wildlife hazing and treatment, and make critical decisions regarding specific habitat, human impact protection, and overall response strategy. Detailed seasonal information on environmental sensitivities for each segment of the pipeline, trajectory maps, detailed containment site deployment instructions, oil spill tracking capabilities, the Environmental Atlas, and the Unified Plan, Volumes I and II combine to show the ability to exclude oil from ESAs and APCs.

4) Rationale for ESAs and APCs in Additional (non-RPS) Scenarios

Each non-RPS scenario in the TAPS Cplan contains specific information about environmental sensitivities in the vicinity of the hypothetical discharge and, when known, specific information about locations of raptor nests, critical habitat areas, or specifically designated sensitive or special use areas. As indicated above, determining whether the plan demonstrates the ability to prevent discharged oil from reaching ESAs and APCs requires consideration of the strategies and tactics, as well as the information contained in the rest of the plan. The department requirement to include information on ESAs and APCs in the RPS scenario and its requirement that the non-RPS scenarios demonstrate means of keeping the oil as close to the discharge point as possible, meets the regulatory standard for planning.

Additional Information and Discussion

It may be beneficial to identify the historical as well as regulatory context of the development of the TAPS Cplan, particularly with focus on public comments concerning the Copper River watershed and other watersheds. As part of the first and subsequent approvals of the TAPS pipeline Cplan since the requirements for identification and protection of ESAs and APCs were incorporated into the department's regulations in 1992, the department has required APSC to do extensive work to improve or enhance its response and its ESA and APC protection planning through conditions of approval in each renewal application. Some of the more substantial items are as follows:

- Development of 11 additional scenarios for inclusion in the Cplan to account for the variation in receiving environment and seasonal conditions along the TAPS route,
- Incorporation of the Environmental Atlas (EA-119) into the TAPS Cplan by reference,
- Contracts with several guide/tour boat operators to provide additional transportation for responders and oversight operations,
- The acquisition of 7200' of fast water boom systems appropriate for high velocity river response,
- Creation and completion of a Copper River Survey that addressed containment site improvements that focused on seasonal and annual changes to the Copper River and its tributaries,

- The purchase of boom vanes and MegaSecur dams for the Northern, Central and Southern regions of the TAPS Cplan, specifically including the Copper River area,
- Additional pre-staged equipment on the Gulkana River near RGV 100 and 102 consisting of two conexes containing boom vanes, boom, anchors, recovery systems, and accessories,
- Construction of the Copper River Boat Launch near CS-11-2,
- Construction of earthen berms on river banks in areas of aboveground pipe and defined drainage locations for the Gulkana, Tazlina and Klutina Rivers, and
- Restriction of movement of specific response equipment and designated response personnel within a specified region without department approval.

In arriving at the need for these plan development steps, the department carefully considered public comments at each decision point. During the current review, we received public comments that discussed the need for protection of environmentally sensitive areas and made suggestions for additional requirements. One of those recommendations was for the development of additional scenarios for other rivers within the Copper River watershed. One public commenter asked how high volume scenarios in places other than the Copper River drainage translate into readiness in the Copper River drainage. This question speaks to the core of the department's approach to response planning for facilities such as TAPS that extend over vast areas. Scenarios in high volume rivers at any location on the pipeline show that the plan holder has adequately planned for response in differing high velocity river system environments and demonstrates plans to contain, control and clean up the portion of the spill that reaches open water within 72 hours as required by 18 AAC 75.436(a)(1). It also shows that the plan holder has the organizational structure, ability to expand response assets to adjust to small or large incidents, and sufficient response equipment to respond to an oil spill in varying receiving environments and seasonal conditions required by18 AAC 75.425(e)(1)(F). The Cplan also restricts the movement of certain major equipment and response personnel across geographic regions during normal operations without department approval. Prior to approving movement of major equipment or specific response personnel, APSC is required to provide the department with acceptable mitigation measures to ensure there is no loss in response capability for any operational region. It is not necessary for the plan holder to develop specific discharge scenarios for each high volume or high velocity river that the TAPS pipeline crosses in order to meet response planning requirements.

Issue No. 2: Leak Detection for TAPS

Statement of Issue
Does the TAPS Cplan adequately describe its leak detection system and is the leak detection system in place capable of meeting the requirements of 18 AAC 75.055, 18 AAC 75.425(e)(4)(A)(iv), and 18 AAC 75.445(k).

Findings
The department finds that the Cplan adequately describes a leak detection system for the TAPS Pipeline that meets the requirements of 18 AAC 75.055(a). However throughput in TAPS has been declining since the last approval in 2006, and it is anticipated to continue to decline. APSC last completed a commodity release leak detection test in 2006. 18 AAC 75.055(a)(1) requires that if technically feasible, a plan holder must have the continuous capability to detect a daily discharge equal to not more than one percent of the daily throughput. Currently APSC meets this requirement with the use of the Transient Volume Balance (TVB) system, a computational monitoring leak detection system that monitors flow with the use of leading edge flow meters. Declining throughput may make it necessary to supplement the TVB to detect pipeline leaks at the regulatory standard established in 18 AAC 75.055. Due to the declining throughput in TAPS and the challenges associated with detecting a leak at lower throughputs, the department is requiring APSC to conduct annual commodity leak detection tests to verify on-going compliance with regulatory leak detection standards.

Regulatory Authority
Leak detection, monitoring, and operating requirements for crude oil transmission pipelines are found in 18 AAC 75.055. The pertinent part reads:

> (a) a crude oil transmission pipeline must be equipped with a leak detection system capable of promptly detecting a leak, including
> (1) if technically feasible, the continuous capability to detect a daily discharge equal to not more than one percent of daily throughput;
> (2) flow verification through an accounting method, at least once every 24 hours; and
> (3) for a remote pipeline not otherwise directly accessible, weekly aerial surveillance, unless precluded by safety or weather conditions.

Additionally, the regulations under 18 AAC 75.425(e)(2)(E) require a plan holder to sufficiently address discharge detection, specifically leak detection in Part Two of the Cplan. Best Available Technology (BAT) requirements at 18 AAC 75.425(e)(4)(A)(iv) require that leak detection systems meet the requirements of 18 AAC 75.055, and the plan holder is required to conduct a BAT review to evaluate whether the leak detection system in place meets applicable criteria.

Response to Comments and Basis for Decision
Public commenters expressed concerns that the current leak detection system in place won't detect a leak as intended, and that the current system in place is inadequate. Commenters concerns for "prompt" leak detection are shared by the department. However, the word "prompt" can suggest different timeframes to different individuals. Regulations at 18 AAC 75.055 (see above) establish requirements for prompt detection of a leak. One measure of prompt leak detection is identified as the ability to detect a daily discharge of not more than 1% of daily throughput using an accounting method to verify flow at least once every 24 hours. This method is supplemented by a program of visual surveillance that includes aerial surveillance

overflights on a weekly basis as weather allows. Therefore the amount of discharged oil that must be detected to meet the standard varies with changes in daily throughput. The department recognizes inherent concerns associated with a leak detection system that relies on throughput levels for a pipeline with historically declining throughput. For this reason, the department has required that APSC conduct a commodity release leak detection test once per year as a condition of approval. The last time a test like this was conducted was in 2006, but through a Memorandum of Understanding with the JPO and a department letter dated March 30, 2011, APSC must conduct another test prior to the end of 2011. Subsequent annual commodity release leak detection tests will be required before the end of 2012, 2013, 2014, 2015, and 2016.

In its BAT analysis of pipeline leak detection and in Volume 1, Section 2, the Cplan describes and analyzes three leak detection systems. Section 2.1.8.3, states that the "TVB leak detection system is a hydraulic model based on a simulation system that uses measured segment flows, pressures and temperatures to perform leak detection". In addition to Section 2.1.8.3, Section 4.12.2 and Table 4-17 state that the TVB leak detection system has been in place since 1990 and undergoes a rigorous performance review annually. In addition to the TVB leak detection system, the plan holder is also continuing the use of the line volume balance (LVB) leak detection system. As required by 18 AAC 75.425(e)(4)(A)(1v) the plan holder has demonstrated through a complete BAT analysis that the TVB system is capable of meeting the leak detection requirements of 18 AAC 75.055(a). The BAT analysis also shows that the TVB system is the most practical to use in order for APSC to achieve the 1% detection standard. For the purposes of the Cplan APSC has met the requirements of 18 AAC 75.055(a) and 18 AAC 75.425(e)(4)(A)(iv).

Issue No. 3: Oil Spill Response Training Program

Statement of Issue
Does the TAPS Cplan demonstrate that response personnel are trained and kept current for purposes of implementing the response strategies and tactics described in the plan? Does the plan's Table 3-29, OSCP Training Matrix, demonstrate that appropriate responder groups will receive the training needed to fill their specified response roles?

Findings
The department finds that the training matrix as provided in the Cplan is adequate and meets the requirements of 18 AAC 75.425(e)(3)(I). The department also finds that there is a need to continually monitor the frequency of training to verify that the appropriate skill-set training for responders is maintained as stated in the Cplan.

Regulatory Authority
18 AAC 75.425(e)(3)(I) requires the plan to contain "...a detailed description of the training programs for discharge response personnel."

Approval criteria are established by 18 AAC 75.445(j):

> "Training. In addition to maintaining continuous compliance with other applicable state and federal training requirements, the plan holder shall demonstrate that (1) designated oil spill response personnel are trained and kept current in the specifics of plan implementation, including deployment of containment boom, operation of skimmers and lightering equipment, and organization and mobilization of personnel and resources; (2) personnel are trained and kept current in methods of preventing oil discharges as required by 18 AAC 75.020; and (3) proof of training is maintained for five years and is made available to the department upon request."

Response to Comments and Basis for Decision
Commenters indicated that the plan did not have enough response personnel to respond to a discharge. One commenter stated that APSC needs to establish a trained citizen response corps similar to the SERVS fishing vessel program. In this case, the department believes APSC has identified an adequate number and skill-set mix of responders to meet regulatory requirements. At the time of this approval decision, APSC is currently in compliance with their plan with respect to response equipment and personnel availability. However, to ensure that APSC continues to train and utilize the proper skill-sets and number of responders, the department has attached a condition of approval that will require APSC to continue to send quarterly training reports for contractor responders as allowed by AS 46.04.030(e)(1) – (3).

Issue No. 4: TAPS Oil Spill Response Exercise Program

Statement of Issue
Does the TAPS Oil Spill Response Exercise Program for 2012 through 2016 provide sufficient opportunity to exercise strategies needed to respond to the RPS volume and exercise response strategies and tactics in the Northern, Central and Southern regions of the pipeline route? Does the program include opportunities to exercise protection of environmentally sensitive areas and areas of public concern?

Findings
The department finds that the TAPS Oil Spill Response Exercise Program is sufficient for training spill response workers and for demonstrating the capability to respond to an RPS volume spill and oil spills that may occur at a wide variety of locations along the pipeline. Seven of the combined resource exercises include a goal of developing an environment plan, and each of them include strategies to limit the spread of oil to downstream locations, including to environmentally sensitive areas and areas of public concern.

Regulatory Authority
Alaska Statute 46.04.030(e)(1) – (3) gives the department authority to require an applicant or plan holder of an approved Cplan to ensure their continuous compliance with the plan through

periodic training, response team exercises, and verifying access to inventories of equipment, supplies and personnel.

Regulations at 18 AAC 75.485 allow the department to conduct two announced or unannounced discharge exercises per year for each plan holder. If the plan holder fails to implement the plan successfully during an exercise, the department may hold additional exercises. The department may consider plan holder planned and executed discharge exercises as meeting this requirement if the department monitors, evaluates, or participates in the exercise and concurs that it is equivalent to an exercise conducted by the department.

Response to Comments and Basis for Decision
The department received several public comments on the Drill and Exercise program. The commenter stated that the drill and exercise program doesn't address seasonal unannounced drills, that the drills are unrealistic, and that the drill and exercise plan does not adequately address equipment deployment drills in winter conditions.

The department recognizes that planned exercises for the various Pump Stations and Response Base crews are skewed to spring, summer and fall deployments. However, the department does not find that the number of planned winter exercises is inappropriate. As currently written, the drill and exercise plan does not address unannounced exercises other than to say that one exercise per year, per response base will be unannounced. The drill and exercise program does not indicate which drill will be unannounced, because publishing the approximate date and location of such drills would negate the point of conducting unannounced drills. The department disagrees with the recommendation that the plan holder should hold both a winter and summer unannounced drill at each response base. The number of winter drills is not inappropriate, and in the past the department has conducted unannounced drills in winter conditions.

The department disagrees that the current way drills are conducted is unrealistic. The department has observed several deployment drills along the pipeline corridor as well as all of the combined resource exercises since 2009. At no time were the responses to the "fake" oil spill unrealistic.

The department also received comments that the public was not invited to attend or observe the execution of the equipment deployment drills. The department cannot require the plan holder to invite individuals or agencies onto their lease or into their facilities to observe drills and exercises. The department encourages the plan holder to identify those persons that could be affected by an oil spill from TAPS and invite the appropriate parties when there is an equipment deployment drill in their area. APSC did established stakeholder observer programs for several exercises during the last Cplan renewal cycle.

Issue No. 5: Response Planning Standard

Statement of Issue
Does the TAPS Pipeline Cplan demonstrate sufficient oil spill response resources to respond to a Response Planning Standard (RPS) volume spill to open water? Does the TAPS Cplan RPS Scenario clearly identify the equipment and personnel necessary to meet the requirement to contain or control and cleanup the portion of the spill that reaches open water within 72 hours as required by18 AAC 75.436(a)(1)? Do the other response scenarios contained in the Cplan demonstrate response resources to contain or control and cleanup within 72 hours the portion of the non-RPS discharge that reaches open water? Do those scenarios demonstrate sufficient equipment and resources to respond to a non-RPS volume spill?

Finding
The department finds that APSC has identified sufficient quantity and type of oil spill response equipment in the TAPS Pipeline Cplan. The department also finds that there are sufficient response resources to meet the 72 hour planning standard found in 18 AAC 75.436(a)(1) as demonstrated in the RPS Scenario (Scenario #1,Minton Creek/Salcha River). Likewise, Scenarios #2 through #13 demonstrate sufficient response resources to plan to contain or control and cleanup discharged oil that reaches open water in a variety of seasons. Additionally, the 72 hour requirement to contain, control, and clean up an RPS discharge to open water is a planning standard to ensure that the plan holder has enough equipment available to them to adequately respond to such a discharge.

Regulatory Authority
The requirement for a Cplan to include a complete list of response equipment needed to respond to an RPS volume spill and to protect environmentally sensitive areas is found in 18 AAC 75.425(e)(3)(F):

> .... A complete list of contracted or other oil discharge containment, control, cleanup, storage, transfer, lightering, and related response equipment to meet the applicable response planning standard, and to protect environmentally sensitive areas and areas of public concern that are identified in (J) of this paragraph and that may be reasonably expected to suffer an impact from a spill of the response planning standard volume as described in the response strategies developed under (1)(F) and (1)(I) of this subsection, the list must include:
>
> (i) the location, inventory, and ownership of the equipment....

Further, the plan review criteria contained in 18 AAC 75.445(g)(3) requires that

> ...types and amounts of boom, boom connectors, and anchorage devices must be of the appropriate design for the particular oil product, type of environment, and environmental conditions experienced at the facility or operation; the boom must be of sufficient length to mount an effective response to the volume of discharged oil ....

Response to Comments and Basis of Decision

The department received public comments on several different facets of the RPS. First the commenter stated that none of the containment site drawings show any clean up activity below the immediate spill vicinity. The commenter also contends that the leading edge of the spill would be past the containment sites in high velocity rivers like the Copper River. Containment sites are not necessarily intended to depict the entirety of a response. In many scenarios, including the RPS Scenario, multiple containment sites and areas of opportunity for implementation of response tactics comprise response plans rather than a single containment site. Typically, the purpose of a containment site is to minimize the downstream movement of discharged oil by containing or controlling it. In situations where oil could be discharged into high velocity rivers, it is possible that oil will escape barriers at the first containment site or area of opportunity where response tactics are implemented. Scenarios in those types of environments clearly indicate that multiple locations for deployment of resources are planned for the purpose of enhancing the potential for containment. The comments received suggested that it was inappropriate for APSC to utilize river velocities that, while within the mean from USGS data, do not represent the fastest potential velocity. Regulatory requirements for the RPS scenario provide that it must depict environmental conditions that might reasonably be expected to occur at the discharge site. The department finds that APSC has depicted response actions and timelines in the RPS scenario that are reasonable for the season. Other scenarios in the Cplan depict response strategies and tactics to deploy resources to control or contain and cleanup discharged oil to open water in a wide variety of seasonal conditions that are reasonable and consistent with available river velocity data.

A public commenter extracted two pages from a report by S.L Ross titled "Interaction Between Crude Oil and Suspended Solids in Rivers Along the Trans-Alaska Pipeline" (March 2001), which examines oil behavior in silty rivers. The commenter notes that "the oil would exist in the water body, but would not, perhaps, be visible." We acknowledge the potential for discharged oil to be suspended in the water column of high volume, high mixing energy rivers. The S. L. Ross study and report was done for APSC to satisfy a condition of approval for the 1998 renewal of the TAPS Cplan in order to better understand the effects of oil in such rivers. The report states that "for the Klutina, Tonsina, Tiekel, and Tsnia Rivers, most of the oil that was spilled into these rivers would eventually reach the Copper River."[6] It is important to note that this study does not take into account the use of control and containment tactics to slow the spread of oil. This study and the effects on an oil spill from TAPS are discussed in detail in Section 1.6.3.6 of the Cplan. In the event that suspended solids in the river did absorb oil, the Cplan adequately addresses discharge tracking in Section 1.6.3.4 as required by 18 AAC 75.425(e)(1)(F)(iv).

[6] S.L. Ross Environmental Research, "Interaction Between Crude Oil and Suspended Solids in Rivers Along the Trans-Alaska Pipeline," p. iii.

Because the Cplan relies on the use of pre-staged equipment to demonstrate effectiveness of its response strategies and tactics in the RPS Scenario and in other scenarios in the Cplan, the department required APSC to inventory each containment site listed in the Cplan containing pre-staged equipment in 2006. This requirement was met. However, during the time of this Cplan renewal review, department and BLM staff conducted inspections of several containment sites on the northern end of the pipeline and discovered that some containment sites have additional important spill response equipment that is not identified in the Cplan. While having additional response equipment pre-staged at a containment site does not inhibit the plan holder's ability to respond to an oil discharge, it is important that the Cplan equipment lists are accurate. Therefore, the department is requiring APSC to conduct another update of containment site inventories line-wide to ensure that the Cplan is accurate for locations where additional equipment has been pre-staged.

OTHER ISSUES IDENTIFIED BY THE DEPARTMENT AND COMMENTERS

Public Review Process of Cplan Discouraging.
The review process utilized by the department is based on regulatory requirements found in 18 AAC 75.455, Department Review Procedures for Oil Discharge Prevention and Contingency Plans and Nontank Vessel Equivalent Plans. The general review procedures were discussed in the Introduction of this document. Public review copies of the application and plan were available at public libraries, local government offices, affected coastal district offices, and at Alaska Department of Environmental Conservation offices along the TAPS corridor and in Anchorage. There is no requirement for provision of electronic or online versions of applications and plans. There is no requirement for the Joint Pipeline Office or any other individual state or federal agency to advertise the plan application or public comment period. We may request that the Joint Pipeline Office provide links to future contingency plan reviews, but there is no obligation that they must agree to do so. The public notice was published as required by 18 AAC 75.455(b)(4). In addition, as directed in the public notice, several persons contacted department staff directly to request to be informed of status changes in the plan review. Stakeholders who requested to be included on status updates were added to the copy list for department correspondence with the applicant and were copied on updates for the extended public comment period deadline.

Citizen Advisory Council for the TAPS Pipeline
The department received comments recommending an industry-funded independent citizens' advisory group or council be established for the TAPS Pipeline. The department has addressed this recommendation in the past and will briefly re-state our position here: the department does not have the authority to require or sanction the creation of such a group or council. However, the department acknowledges the underlying request for stakeholder involvement in major decisions. In part, this goal can be accomplished through participation in public review processes. The department also encourages APSC to continue to take advantage of local knowledge of residents along the pipeline corridor and to continue to develop open communications channels between the company and the public.

Wild Salmon Resources
The department received comments from a non-government organization that indicated that the containment sites in the Copper River drainage don't identify salmon as a sensitive resource. The commenter goes on to state that only "fish" are listed as sensitive. The Cplan properly addresses the protection of wildlife as required by 18 AAC 75.425(e)(1)(F)(xi). Prioritization of anadromous fish streams is detailed in the Unified Plan (Volume I) and the Prince William Sound Subarea Contingency Plan (Volume II). Additionally, the comments focused on potential economic impacts associated with a discharge. While that concern speaks to the important public concern for impacts from oil discharges, the oil discharge prevention and contingency plan is intended to identify prevention and response planning, but not to demonstrate economic remedies from oil discharges.

Geographic Response Strategies
The department received comments that request that the department require the plan holder to incorporate GRSs into the Copper River drainage. The commenter goes onto say that creating these sites is common practice in western states such as Washington, Idaho, Oregon, and California. The department acknowledges that GRS sites can aid a response effort, but they don't necessarily expedite it. GRS sites for the protection of the Copper River Delta and Flats are identified in the Prince William Sound Subarea Contingency Plan. The department is part of a multi-agency and multi-stakeholder group that will begin to work on identifying and developing additional GRS sites for the Interior Subarea Contingency Plan area in 2012. These sites will be identified based on agency and local priorities, and will serve as the prototype for future GRS development for Alaska's inland areas. The effort will be advertised on the department's website, and we encourage local stakeholder participation in the process.

END OF DOCUMENT