which means that up to 540,000 bbl of stored oil may be left in the path of a volcanic eruption and that the lessons learned in 2009 have been discarded. This is unacceptable to the citizens of Cook Inlet.

CIRCAC also believes that the secondary containment (and now additional containment beyond that) does not warrant a prevention credit given the potentially devastating impact of a volcanic eruption on the Drift River Terminal storage facility. CIRCAC is concerned that the focus of Harvest is not on reducing the potential for a release, but instead on reducing the obliged resources and planning for a response.

Finally, in our review of the Best Available Technology Review it was apparent that while some work had been done to update this section other areas were either overlooked or ignored. We suggest that the age of the facilities covered in this plan warrants close scrutiny for the use of Best Available Technology. The enclosed comment document elaborates further on this issue.

We hope the enclosed comments will be considered carefully by the ADEC and the plan holder. CIRCAC will use all available avenues to ensure that adequate measures are in place to secure the DRT facility and to remove oil stored there in the event that volcanic activity threatens the area. If you have any questions or wish to discuss this further, I can be reached at (907) 283-7222 or via email at MikeMunger@circac.org.

Sincerely,

Michael Munger
Executive Director

Cc: Graham Wood
Kristin Ryan
Commissioner Hartig

Comments and Requests for Additional Information

Regarding

Harvest Alaska, LLC

Cook Inlet Facilities

Oil Discharge Prevention and Contingency Plan

Submitted

By

COOK INLET REGIONAL CITIZENS ADVISORY COUNCIL

MARCH 16, 2017

Overview

Harvest Alaska, LLC (Harvest) has submitted its oil discharge prevention and contingency plan (c-plan) for their Cook Inlet Pipeline and associated facilities on the western shore of Cook Inlet in the general region south of Tyonek and Kustatan. These include:

- Granite Point Tank Farm (GPTF)
- West Forelands Pump Station (WFPS)
- Drift River Terminal (DRT)
- Cook Inlet Pipeline, a buried crude oil transmission pipeline that transports crude oil from GPTF and WFPS to the DRT
- Christy Lee Offshore Loading Platform

In these comments we reference both the regulations at 18 AAC 75 Chapter 4 and ADEC's c-plan Application Package Review and Guidance Document dated December 2016 (henceforth, "ADEC Guidance").

Introduction

Page I-9 contains a Certificate of Approval for ODPCP for other facilities and Company (Hilcorp), not Harvest. Likewise, for the Statement of Contractual Terms the Hilcorp Production facilities are referenced. Please clarify.

1.0 Response Action Plan

1.2 Reporting and Notification

1.2.2 External Notification Procedures

This section refers to "activating" the Alaska Department of Conservation and National Response Center. We suggest that the previous language that referred to "notifying" these government entities is more appropriate.

This section also states that "stakeholders and supporting agencies may be contacted." However, it does not identify any specific groups either in this section or the referenced Table 1-2. ADEC Guidance recommends that the plan should include contact details for groups such as the Regional Citizens Advisory Councils. CIRCAC should be identified as a party to be notified in the event of any spill reportable to ADEC or NRC. Other groups should be considered for identification in advance as well.

1.2.3 Qualified Individuals

This subsection indicates that the Qualified Individual (QI) or alternate QI is not responsible for contracting or obligating funds for response resources beyond the full authority as designated by the owner/operator. This seems inconsistent with the Management Approval and Resource Commitment Statement wherein it is affirmed that

the QI will have the necessary equipment, manpower, and materials available to respond to a worst case discharge. Please clarify.

1.3 Safety

This section indicates that CISPRI's site safety plan is summarized in the CISPRI Technical Manual, but does not include steps to create an incident-specific site safety plan as required by 18AAC75.425 (e)(1)(C).

1.3.5 Evacuation Routes and Plans

While this section does a fair job of describing evacuation procedures and locations, it should also reference facility diagrams (Figure A-4 and A-5) that would show those routes and locations as per 18AAC75.425(e)(1)(H).

1.4 Communications

1.4.2 CISPRI's Communication System

This section indicates that "A VHF marine radio is installed on each vessel that is operated by CISPRI. Five handheld VHF marine radios capable of operating on any marine channel are maintained by CISPRI." All CISPRI radios are capable of operating on all marine channels. Please clarify where the handhelds are kept, and why only five are maintained.

1.5 Deployment Strategies

1.5.2 Transport of Resources

Section 1.5.2 identifies Table 3-5 as listing heavy equipment for response activities. This reference should be changed to Table 3-4, as Table 3-5 contains response equipment on the Christy Lee Platform.

1.5.3 Transporting Equipment and Personnel in Adverse Weather

Table 1-4 has been edited to present "Mobilization, Transit, and Deployment Time…" but still provides a combined time range (i.e., 8 to 11 hours) for each type of asset. By combining the times for these three related but discrete activities also makes it difficult to align the information in the plan with that presented in the CISPRI Technical Manual. It appears that there are discrepancies between Table 1-4 and Travel Time indicated in the referenced section of the CISPRI Tech Manual (CI-LP-1(A) Table 1).

For example, the CISPRI Technical Manual indicates travel time for vessels from the OSK dock to the Christy Lee platform to be 5 hours in ice conditions while the plan section indicates 8 to 11 hours from Nikiski to the Christy Lee Platform. It is not clear whether this is a discrepancy in planning assumptions or simply a focus on different elements of the response.

Table 1-4 also indicates Mobilization, Transit and Deployment Time from CISPRI to GPTF DRT by road. Please clarify which road is used to travel between CISPRI and GPTF or DRT.

Table 1-4 should also include information regarding barge transit times, at least for the CISPRI barges. Please clarify the assumptions regarding the time it would take to mobilize and transport a barge from Homer to the DRT and include the times in Table 1-4. The times allocated (17-24 hours for CISPRI barge and 17-48 hours for commercial barges) seem overly optimistic.

Table 1-5 (Summary of Staging Capabilities in the Cook Inlet Region) should mention the Agrium Pier by name, as it is (assumed) to be one of the "3 deep-draft piers" listed.

1.6 Response Actions and Strategy

1.6.1 Procedures to Stop the Discharge

While this section indicates specific procedures to stop the discharge are contained in the spill scenarios it lacks specific detail to fully understand time and manpower requirements to accomplish source control at this facility. Additional references could be provided, i.e. emergency shutdown procedures similar to the Fire Prevention and Control procedures contained in Section 1.6.2.

1.6.3 Discharge Tracking

This section references some CISPRI tactics for slick tracking/detection on land and water. It provides a very simple approach to anticipating where the slick will go, however. Use of NOAA's GNOME trajectory model or some other method for predicting slick movement would be appropriate to this section and benefit the response's ability to protect sensitive areas in advance of the slick. 18 AAC 75.425(e)(1)(F)(iv) requires procedures for both real time surveillance and forecasting.

In Cook Inlet, short-term transport can be predicted by tidal currents and wind. However, over the longer-term (days to weeks), the net transport of the oil is dominated by over-riding currents such as the western boundary current down the west side of Cook Inlet. Within the scenarios (section "iv"), it states that computer modeling will be used but does not identify a program, inputs, or users. This is not a function CISPRI normally performs; please clarify what modeling program will be used and by whom. The methods identified all relate to tracking oil, not forecasting where it will go. This latter function is critical to planning for the deployment of protective strategies in advance of the slick. For these reasons, we recommend employing the cited CISPRI tactics along with use of the NOAA's GNOME trajectory modeling program to aid in trajectory projection.

Additionally, this section describes the use of aircraft for aerial monitoring. The use of unmanned aircraft would allow an alternate means of visual tracking ability when weather conditions are not safe for manned aircraft. Please clarify if drones or unmanned aircraft systems (UAS) has been considered.

1.6.4 Protection of Environmentally Sensitive Areas

This section references the CISPRI Technical and the Cook Inlet Sub-area Plan to identify and prioritize response activities in environmentally sensitive areas. The text goes on to discuss site specific tactics and references the Cook Inlet Geographic Response Strategies that are located in Section 3.10 of the plan. Section 3.10 includes the GRS sites immediately surrounding the Christy Lee platform and several more sites to the north of the platform; since the predominant tidal current flow is southerly, we recommend including at least as many sites to the south of the facility as are included to the north.

1.6.5 Temporary Storage and Ultimate Disposal

This section primarily addresses ultimate disposal of recovered oil and contaminated materials. It does not discuss temporary storage procedures beyond referencing the CISPRI Technical Manual or locations for temporary storage. Please clarify how and where temporary storage will take place for contaminated materials and recovered oil and oily liquids as required at 18 AAC 75.425(e)(1)(F)(x).

1.6.7 Shoreline Cleanup Plans

While this section identifies NOAA's ShoreZone Mapping website as a good source for images to assist SCAT it does not mention CIRCAC's Cook Inlet Response Tool (CIRT). CIRT contains not only the same ShoreZone imagery and data it has many other useful data layers (including GRS and the anadromous stream catalog) that can be used to populate a GIS map of the Cook Inlet region.

Scenarios

The format used for the scenarios provides a direct reference to the regulatory citations, but does not provide a clear timeline that can be easily verified against the planning assumptions in other sections of the plan. Please clarify the expected timeline for these response actions as set out in 18 AAC 75.425(e)(1)(F).

Scenario 1: Oil Storage Tank Rupture

(ii) Preventing or Controlling Fire Hazards- This section indicates the Nikiski Fire Department would be put on standby for response and scheduled overflights. Please clarify to what degree the Nikiski Fire Department would support response operations.

(v) Protection of Environmentally Sensitive Areas and Areas of Public Concern- This section indicates wildlife monitoring will begin on Day 2. During the spring season, the entire area around the DROT may see large numbers of birds concentrated in a relatively small area. Early life stages are present in restricted areas and locations where animals come ashore for birthing, resting, or molting are present. This area is also important to specific life stages or migration patterns; and places where a significant percentage of the population is likely to be exposed to oil during a spill. According to the CISPRI Technical Manual, the Alaska Wildlife Response Center (AWRC) can be operational within 12 hours. After speaking with Response Services Director, it was noted the Center can be activated in 20 minutes and that the International Bird Rescue (IBR) should be activated immediately. With this in mind, please clarify why monitoring for wildlife activity should wait until day 2.

This section does not clearly indicate when the Environmental Unit will be activated, only that it will be activated. Please clarify when the Environmental Unit will be activated.

Also, note a typographical error Drift River GRS (CC1-15), which should be corrected to (CCI-15).

(vi) Spill Containment and Control Actions- This section indicates that Immediate Response Team (IRT) members are deployed. The IRT program is an important part of the CISPRI response effort. IRT's provide CISPRI trained personnel familiar with the tactics employed that allows for very effective expansion of response manpower. It is encouraging to see Harvest/Hilcorp support this response program. When owner company IRT's respond to a spill on their facility it adds an invaluable layer of expertise to the response because they are familiar with the facility and its operations.

(vii) Spill Recovery Procedures- This section describes the use of berms and ditches to contain the spilled oil. The description is somewhat confusing. The section references Figure 1-4 to show where berms and ditches would be constructed. Figure 1-4 shows the general layout of the facility and some of the spill control and recovery tactics, however no ditches are shown. Recommend another facility diagram (similar to Figure 1-4) to avoid confusion between existing spill control measures and tactics employed in this scenario to show the location (or likely location) of all berms, ditches, and any other control and recovery tactics employed in the scenario.

Additionally, the equipment and methods for recovering oil that remains in secondary containment should be described.

Task Force 4: Open Water Recovery- This section discusses operations in ice conditions. However, the tactic could be described better to fully understand how it will be utilized. Additionally there seems to be repeated text (bottom of page 1-37 and top of page 1-38) or there may be two Class 1 contracted vessels in use. Please clarify how many Class 1 vessels will be working in Task Force 4.

Task Force 4 has several vessels conducting recovery operations. The section describes Class 2 vessels as both lightering in ice free waters and decanting "using ice as containment before offloading to a barge." Please describe what kind of ice conditions will be needed in order to provide reliable containment in a high current environment, and whether there will be sufficient boom available for containment if the appropriate ice conditions are not present.

Additional information on the merits of decanting in this situation (if permitted) should be provided. If decanting is critical due to a shortage of storage, please describe what will be done if permits cannot be obtained.

The scenario also indicates that the vessels will operate 20 hours a day. There is no explanation as to what the expected round trip travel time to transit to the barge located in ice free waters will be. Please clarify what the expected active recovery operations period and expected travel time will be.

Task Force 7: Liquid Transfer (From Secondary Containment) is said to transfer recovered product to tanks 1 and 2. Please clarify if tanks 1 and 2 are suitable to be placed in service, when they were placed in service.

(ix) Transfer and Storage of Recovered Oil/Water; Volume Estimating Procedure- This section indicates the volume of recovered oil will be estimated through the use of the ship's (tanker) tank volume readings. This does not seem to account for recovered oil left in transfer piping. Please clarify how the total recovered oil volume will be calculated.

(x) Plans, Procedures, and Locations for Temporary Storage and Disposal- This section indicates solid oily wastes will be incinerated or managed as hazardous waste. It does not indicate if the incineration will be conducted on site or transported to an offsite incinerator. Please clarify the location of the incinerator.

(xi) Wildlife Protection Plan- This section indicates that a wildlife hazing team is deployed on day 2. It is imperative to prevent wildlife from being impacted by the spill. Therefore, it seems reasonable to deploy hazing teams along with recovery personnel in order to haze wildlife away from affected areas. International Bird Rescue, Response Service Director advises deployment of wildlife hazing/capture teams immediately. Please clarify the rationale for waiting until day two to deploy wildlife hazing teams.

Table 1-8 Recovery and Handling Capability- Oil Storage Tank Rupture – this table shows two Class 1 contracted vessels with a storage capacity of 2,380 bbls of storage capacity. However, the CISPRI Technical Manual only lists one response vessel with that capacity. Please verify the availability of a second, Class one vessel on contract with an on board storage capacity of 2,380 bbls or more.

Scenario 2: Pipeline Rupture at Big River Crossing, Summer

Parameter Conditions- Spill Trajectory- This section indicates approximately 1/3 of the discharged oil is recovered from the banks and containment site on Big River. Please clarify if these containment sites are natural collection points or collection points created by responders.

(i) Stopping Discharge at Source- This section indicates the pipeline rupture area is isolated by securing pump activity and remotely shutting valves. However, Figure 1-5 Pipeline Rupture Scenario does not indicate the location of the two nearest pipeline valves (remotely operated or manually operated). Recommend indicating those locations on Figure 1-5 for both summer and winter scenarios.

Scenario 3: Pipeline Rupture at Big River Crossing, Winter

In Table 1-16 under Spill Location, "Middle River" should be replaced with "Big River."

The figure on page 1-66 appears to be related to the previous Middle River scenario and has likely been replaced by the image on page 1-65, though this is hard to determine in the redline document. Please check that the appropriate figure is used.

(vii) Spill Recovery – The tactics referenced do not match the text contained in the Response Action which indicates response crews will be flown in and begin excavating trenches and slots. Those tactics are contained in CI-IL-2.

(viii) Lightering Procedures- This section indicates lightering is Not Applicable. However, TF-3 and TF-4 each indicate their vessels will lighter at the Christy Lee platform. Please clarify how Class 2 and 3 vessels will be able to lighter at the Christy Lee platform.

Task Force 3 (TF-3) Open Water Recovery - This section indicates that one Class 1 contract vessel will be in use by hour 49 and two Class 1 contract vessels will be in use by hour 9. Aside from the time differences indicated, each vessel is said to have onboard storage of either 2,500 bbls or 2,389 bbls. Please clarify if both of CISPRI's Class 1 vessels are immediately available for response and how many Class 1 vessels have an on board storage capacity equal to or in excess of the referenced 2500 bbls to 2380 bbls.

Task Force 4 (TF-4) Open Water /Nearshore Recovery- This section indicates two Class 3 fishing vessels each with Crucial 13-30 disc skimmers will recover oil during daylight hours with recovered oil stored in 220 bbl O/W Separators. Please verify that a Class 3 vessel has enough deck space to support an O/W tank measuring 21' x 8.5' and a skimmer system.

1.7 Non-Mechanical Response

While this section provides a good overview of the federal and state requirements for requesting and conducting in-situ burning and utilizing dispersants, it does not provide clear direction or procedures to Harvest employees or their contractors on the company-approved process for navigating the permit process nor an explanation of how Harvest will implement these measures. Harvest employees should have clear direction on their role(s). Please provide more information on Harvest's procedures (in addition to what's laid out in the CISPRI TM) for obtaining permits and how these response options will be implemented if approved.

2.0 Prevention Programs

2.1 Prevention, Inspection, and Maintenance Programs

2.1.1 Oil Discharge Prevention Training Programs

This section indicates that there is a "minimum of four personnel on site at all times." Since the Introduction indicates Harvest is the Operator of the Cook Inlet Pipeline and associated facilities including GPTF, WFPS, Cook Inlet Pipeline, DRT and Christy Lee Offshore Loading Platform; and that this ODPCP has been prepared to cover all aspects of Harvest's operations. It is not clear to which facility this refers.

CIRCAC continues to assert that on site personnel are key to a successful prevention plan. We are pleased to see Harvest retains a minimum of four personnel on site. However, we believe even four personnel on site may be somewhat strained to effectively monitor facility operations. Had there been additional facility personnel on site at the DRT to verify valve alignment last summer the resulting spill (spanning July

thru Dec, and will resume in the Spring/Summer of 2017) may have been discovered sooner or the event may have been averted altogether.

2.1.5 Discharge Prevention Programs

The paragraph that indicated oil containment booms would not be deployed at the Christy Lee Platform has been deleted in this plan version. Since booming the vessel is a requirement listed in 18 AAC75.025 - unless it is technically unfeasible - it should be noted that it is unfeasible to boom a vessel at the Christy Lee terminal due to the velocity of the tides and currents; thereby demonstrating compliance with the requirement.

2.2 Discharge History

This section provides a good overview of past spills, including location, product, cause, volume, and corrective action (such as repairing a damaged line or fixing a valve). However, it does not identify mitigating measures adopted to prevent future spills, as required at 18 AAC 75.425(e)(2)(B)(iv). With two spills as recently as 2016, this information is particularly important. These can be good indicators of areas where improvement is needed to prevent future spills.

2.4 Conditions Increasing Risk of Discharge

2.4.1 Earthquakes, Volcanic Activity, and Floods

The planholder identifies conditions that may increase risk of a discharge, as required at 18 AAC 75.425(e)(2)(D)(i). However, some critical measures to reduce the risk of a discharge have been changed. These measures are required under 18 AAC 75.425(e)(2)(D)(ii). CIRCAC is very concerned about the removal of some critical discharge prevention measures from Section 2.4.1 and Section 3.11. Our concerns are elaborated in Section 3.11.

3.0 Supplemental Information

3.4 Realistic Maximum Response Operating Limits

This section provides a very general discussion of some of the potential impacts of conditions on a response, though it does not include any analysis of how often such conditions may occur as required at 18 AAC 75.425(e)(3)(D).

A number of the statements made require clarification. For example, we disagree that marine operations would not be terminated due to poor visibility, and that offshore response equipment could operate in "most" ice concentrations.

The section also states that offshore skimmers will be capable in currents up to 8 to 10 feet per second (4.7 to 5.9 knots), but does not discuss the impact of such currents on containment or how recovery will be undertaken to as to minimize the impact of currents on containment, recovery, or oil tracking. With a mean maximum tidal current

velocity of 7 knots (stated at the beginning of Section 3.4.3), this section should describe how recovery will occur in high currents and what will be done to mitigate impacts on the response. One measure that is included refers to providing containment "with boom and anchor on the creek bank until the weather clears." It is unclear how currents are weather that will "clear" (though they will change with the tide cycle), or what the relationship is between offshore skimmers and containment on a creek bank.

The section essentially concludes that non-mechanical response will be used when conditions preclude mechanical recovery. However, there is no acknowledgement of the fact that both dispersant application and in-situ burning are also subject to operating limitations.

3.10 Protection of Environmentally Sensitive Areas

The plan references the Cook Inlet Subarea Plan and GRS in the area. As noted, we suggest that additional GRS sites south of the DRT should be identified due to the southerly predominant tidal current flow. This section should also describe the process that the planholders will use to ensure the protection of sensitive areas for which GRS have *not* been developed, and how sites will be prioritized overall based on season, etc.

3.11 Additional Information

This section describes measures in place at the DRT in case of volcanic activity from Mt. Redoubt. The measures are organized into a set of protocols based on the Alaska Volcano Observatory's assigned classification of the chance of an eruption (Green, Yellow, Orange, and Red). Some changes were made in this section, notably removal of the following provisions if and when the volcano is classified at the Yellow level, which means, "an eruption is possible in the next few weeks and may occur with little or no additional warning":

- Remote operations from the TBPF set up and tested,
- "Tight line" operations are initiated (isolating tanks in use, bypassing the DRT by pumping oil directly from GPTF and TBPF to the Christy Lee platform for loading, and scheduling a tanker to offload from the DRT within 24 hours),
- Non-essential personnel depart the facility.

Tight-lining operations became established protocol as a result of the 2009 Mt. Redoubt eruption, when removing oil stranded at the facility became an urgent priority and proved challenging for the operators and regulatory agencies. The operator developed the tight-lining procedure when the DRT was returned to operational status after the eruption to provide a way for operations to continue while minimizing the amount of oil at the DRT facility that is potentially vulnerable to an eruption.

The plan no longer states that Harvest will remove the crude oil as a precautionary measure during times of increased volcanic activity. The only precautionary measure regarding the movement of crude oil at the facility is at the highest AVO Advisory State - Red, which indicates an immediate threat of eruption -- and only relate to crude oil movement into the facility and does not address any product in the main storage tanks.

Section 3.11.1 places the decision to remove the remaining crude in the tankage within a Unified Command, after the Red action level has been implemented. The timing of this decision may severely limit the options for reducing the risk of a discharge, for example if the volcanic activity results in heavy ash fall or other hazardous operating conditions.

The prevention protocols dictating the prudent removal of up to 540,00 bbl of crude oil from the path of a potential volcanic eruption should be added back into Section 2.4.1 and Section 3.11.1 as previously required under 18 AAC 75.425 (e)(2)(D)(ii).

The proposed measures indicate that even with the known possibility of an eruption, the 540,000 bbl of oil that may be stored at the DRT would be left in the path of the volcanic eruption with oil continuing to flow to the DRT. With no clear plan or mechanism in place to protect the environment and the facility from a catastrophic discharge at the DRT; and the subsequent consequences to the west side operations, the outcome will likely be the same as in 2009.

4.0 Best Available Technology

This section provides best available technology (BAT) analyses for different components of the facilities and response system as required by regulations. CIRCAC suggests that the plan holder should also include leak detection for each tank as required by 18 AAC 75.425(4)(A)(ii)(3).

4.2 Source Control

Regarding BAT for source control procedures for major onshore oil storage tanks (Table 4-2), four options are analyzed. One of these options is to use a tank transfer system in case of a leak or imminent leak. The table has been updated to eliminate this option, noting that this is not possible for the tanks currently in use due to "current configuration." The other option, which is not used, is to install a liner beneath each tank. This is dismissed as being too expensive at a cost that could exceed more than $1 million per tank. With neither of these options in place, source control is limited to patching a tank and relying on secondary containment. CIRCAC suggests that ADEC consider:

- The need for additional justification regarding why tank-to-tank transfer is not possible (including the cost of putting this in place, as required in a BAT analysis).
- Whether a $2 million cost to install liners under the two tanks in use is truly prohibitive when otherwise the only "source control" method in use is to rely on secondary containment or patch a tank – which seems to have limited feasibility if a leak is already detected. As noted in the table, installing liners might "reduce environmental effects from a spill, especially to the subsurface."

Table 4-4 presents the BAT analysis for source control procedures for onshore pipelines. The options considered are: patching, blocking/checking valves, and using a double-walled structure at stream crossings. The first two options are in use, though the description of the "Strategic Block and Check Valves" indicates that the valves are 20-30 years old. CIRCAC requests clarification on this point:

- Does this mean that the valves range in age, or that the plan holder does not know how old they are?
- Since the numbers have not been updated since the last plan, are they now between 25-35 years old – or older if the numbers have not been updated for more than one plan review cycle?
- What evidence is provided to indicate that valve technology has not been improved in the two to three (or more) decades since these valves were installed?

Regarding the use of double-walled construction at river crossings, we note that at some crossings a thicker wall is already used. The plan holder rejects the double-wall option, noting that any problem that would cause a failure of a single-walled pipeline would also cause a failure of a double-walled pipeline. Please justify this statement.

Additionally, we suggest that ADEC seek clarification regarding whether there are any additional options used for pipeline source control in Alaska or elsewhere that should be considered in the BAT analysis.

4.5 Liquid Level Monitoring

This section states that the tank on the Christy Lee platform does not have a liquid level alarm. If liquid level alarms are used and "BAT" for all other major tanks, further justification should be provided regarding why an alarm is *not* used on this facility located in Cook Inlet.

Table 4-7 presents the BAT review for liquid level determination. Differential pressure transmitter/meters and temperature-corrected ultrasound are presented as the alternative method, which is not currently used at the tanks in the plan. The cost of adding one of these types of systems is quoted at $3-5,000/tank. These sections were not changed in this review cycle. Additional information should be obtained on these – or other – options, and their merits re-considered against the current system of mechanical gauges that were installed in 1993.

Table 4-8 presents the BAT review for the maintenance of buried steel piping. This section has not been updated, and options for BAT should be reconsidered.

4.7 Corrosion Surveys for Buried Steel Piping

In this section, the plan holder has removed consideration of options for electronic corrosion monitoring and surveys. Please justify this removal.

Furthermore, CIRCAC asks ADEC to justify why smart-pigging is not required as BAT for these lines. A cost of $1 million to install pig launching/receiving equipment is cited in Table 4-9 as an explanation, but this does not seem prohibitive in light of the potential cleanup costs versus the potential benefits.

4.8 Leak Detection Systems for Crude Oil Pipelines

Several options are assessed in this section, including two methods currently used (pressure transmitters and monitoring and mass/volume balance accounting) and three alternatives. The alternatives all note that they are sensitive to leaks of less than 1% daily throughput – though how much less is not specified – while the sensitivity is not noted for the systems currently used in this section. Information from Section 2.1.6 should be

added. ADEC's 2012 Pipeline Leak Detection Technology Report makes clear that a sensitivity of 1% daily throughput is a minimum standard, and does not identify something as BAT. The sensitivity of the current methods should be clarified. Further justification is also warranted regarding why some of the other potential alternatives addressed in ADEC 2012 report are not considered.

Neither of the current crude oil leak detection methods provides information about the location of a leak. Two of the alternatives described would provide this important information for costs of $100,000 to $200,000 to install and calibrate the systems. These options should be reconsidered, particularly in light of the fact that the plan holder asserts that they will be able to shut down a line in 20 minutes following leak detection.

The reason for the Coriolis meters (used for mass or volume balance accounting) being mis-calibrated should be explained. This is stated in Table 4-10. As this language was not changed, it appears that they have been "mis-calibrated" for some time, seemingly leaving the system without a reliable means of leak detection at less than 1% daily throughput sensitivity. Please clarify why the meters are mis-calibrated and what is the calibration schedule for those meters.

No cost information is provided for the "External LDS" alternative described. Specific cost information should be provided in the BAT table (Table 4-10), not simply a note that costs are "extremely high."

Finally, the feasibility of the Real Time Transient Modeling (RTTM) in Table 4-10 is vague. Please clarify whether this system would be feasible.

5.0 Response Planning Standard

5.1 Oil Storage Tank RPS

This section includes a 60% reduction in the RPS for secondary containment and a new 10% reduction for "containment outside secondary containment." It is ADEC's discretion to grant reductions in the RPS based on prevention measures, but CIRCAC is concerned about both of these:

- As we have asserted in the past, we support ADEC's use of its discretion under 18 AAC 75.432(c) to require the planholder to base the RPS on all of the potentially affected tanks, rather than just the largest tank. While leaks from all tanks simultaneously may be a very unlikely event anywhere, it is a greater risk at this location due to the position of the Drift River Terminal relative to the active volcano at Mt. Redoubt.

  However, ADEC also has the discretion at 18 AAC 75.432(d) to allow for prevention credits – or not – based on actions undertaken by the planholder. Secondary containment will not be effective in the event of the significant volcanic eruption and associated lahars, which could overwhelm the secondary containment and negate any prevention benefits from other activities. CIRCAC again strongly suggests that the planholder should not receive ADEC

discretionary prevention credits to reduce the RPS. The RPS for the facility should be the full volume of both storage tanks, 540,000 bbl.

- Given the above, we also object to the application of a further 10% reduction credit for "containment beyond secondary containment." There is also no description of this containment in the plan, so it is unclear what has been done that warrants a further reduction in the RPS.

We ask ADEC to reconsider the application of both the 60% RPS reduction for secondary containment and the 10% RPS reduction for additional – yet unspecified – containment.

5.2 Crude Oil Transmission Pipeline RPS

This section indicates changes in the location chosen for a pipeline break and in the time to detect a spill and shut down the pipeline. These changes represent a significant reduction in the Response Planning Standard (RPS) (from 16,378 bbl. to 3,772 bbl.) for this pipeline. It is unclear how this pipeline profile elevation has remained overlooked/ un-identified for so long. CIRCAC is very concerned about the resulting consequences of this change. Please clarify how these changes will not represent a reduction in preparedness. Please verify the accuracy of these changes and the associated calculations to reduce the RPS.

Regarding the reduced time to detect a spill event and shut down the pipeline pump (from 1 hour to 20 minutes), please provide information to justify this reduction in spill detection time when the discharge detection methods have not changed based on the information in Section 3.1.2.

Appendix A

This appendix includes a number of maps and facility diagrams. To improve ease of use, the figure numbers should be made more prominent on the figures and added to the List of Figures (with the Table of Contents at the front of the document) for ready reference.