

BRISTOL BAY SUBAREA CONTINGENCY PLAN

SCENARIOS SECTION

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SCENARIOS: INTRODUCTION

In preparing the spill scenarios, the following topics were taken into consideration:

A. SPILL HISTORY

The spill history from the files of ADEC Spills Database and the NOAA Scientific Support Coordinator provided the reference points for spill scenarios. The focus is only on significant and large spill events. This listing does not take into account the entire database of spills prepared by ADEC for the region, and small spills that had little or no anticipated environmental impact are not included in the Scientific Support Coordinator's files. (A brief synopsis of the Subarea spill history is provided in the Background Section, Part Three.)

B. HAZARD ASSESSMENT

The majority of vessel spills occur due to a combination of bad weather and equipment failure. Mariners operating in good weather and with properly-maintained equipment do not typically experience difficulties.

Deliveries of noncrude oils are made to the villages in this area primarily by barges operating from Dutch Harbor or the Cook Inlet Region. Deliveries are ice dependent and do not occur as ice forms. Delivery of non-crude oil is made to the remote villages in this area primarily by small barges.

C. VULNERABILITY ANALYSIS

The natural habitats of the North West Arctic Subarea support extensive fish and wildlife populations that are extremely important to the social, economic, and cultural welfare of local residents. Offshore areas support a highly productive marine ecosystem, rich with intertidal, benthic, and pelagic plant and animal life that, in turn, provides nourishment for extensive populations of marine and anadromous finfish, shellfish, seabirds, and marine mammals. Rocky shorelines and cliffs provide nesting areas for seabirds.

There are a total of 30 communities in the region (including the two boroughs), 27 Native and 3 non-Native. Bristol Bay is the world's largest sockeye salmon fishery and the state's largest salmon fishery, which is by far the dominant enterprise in the region. Dillingham and Naknek are the major fish processing areas as well as the main ports, although fishing fleets work out of numerous smaller communities also. Noncommercial harvest, including subsistence, is another major activity especially important in areas with no direct connection to the commercial fishing and processing industry.

Historical properties and cultural sites important to the prehistory of the region could also be negatively affected by a spill. Potential effects of spills are not limited to the initial impact of oil, since the response methods used to mitigate a spill can be more detrimental to resources than the spill itself. Therefore, appropriate response techniques need to be considered in relation to sensitive resources.

An overview of oil fate analysis can be found in Section E, Part 3, D (Oil Fate and General Risk Assessment) of this plan.

D. SEASONAL CONSIDERATIONS

In the Bering Sea/Bristol Bay, the sea ice generally begins as fast ice formation along the shores of the Seward and Chukhotsk peninsulas in October. In November, as the cold weather continues and the waters in the open portions of the Bering Sea cool, the pack ice begins its seasonal southward formation. An estimated 97% of the ice in the Bering Sea is formed within the Bering Sea; very little is transported south from the Arctic Ocean through the Bering Strait. During periods of increasing ice and prevailing northerly winds, the ice moves southward with the wind before melting at its southern limit. During periods of southerly winds, ice coverage generally decreases in the Bering Sea, causing a wide variation in ice cover from month to month.

Portions of the region are in the arctic, transitional, and continental climatic zones. Permafrost underlies much of the region. The weather in the region is the result of the interaction between global air movements, land topography, and major weather systems that move north-south and east-west across the Bering Sea.

The larger river basins in the region include the Noatak, Kobuk, and Koyuk rivers. Marine waters associated with the region are comprised of the Chukchi and Bering Seas. Sea ice formation in the Chukchi Sea can begin in October and spreads south into the Bering. The ice pack can persist through late June, although the ice begins to melt and break up in April. The entire marine area of the region lies within the continental shelf.

An overview of wind, tide, ice and current conditions from the Bering Sea to the Chukchi Sea; including the Bering Strait, Norton Sound, and Kotzebue Sound can be found in Section E, Part 3, E (Ice, Wind and Currents) of this plan.

SCENARIOS: PART ONE - COASTAL OIL

A. WORST CASE SCENARIO

Size of the Discharge: 400,000 gallons (of the 725,000 total capacity) of a barges cargo.

Event Description: The fuel barge planning to refuel the Alaska Village Electric Cooperative facility site in Naknek strikes a partially submerged object en route to the marine header. The object is struck is unknown. The vessel grounds on struck object and immediately begins discharging product into Kvichak Bay. Six of the eight tanks are compromised and discharging product.

Location: Approximate position- Latitude 58° 44'N; Longitude 157° 05'W.

Spill: There is a steady release of fuel oil (4,000 gals/day) for two days, then slower release of 1,500 gals/day for the next several days. The vessel was carrying a total of 375,000 gallons of #2 Diesel, 250,000 gallons of gasoline and 100,000 gallons of Jet Fuel.

Cargo Salvage: The ship is determined to be salvageable, lightering is weather dependent.

Date: March 25

On-scene Weather: Winds: SW @ 40 kts, decreasing to 15 kts on second day; Sea State: 10-30ft; Temp: 40° F

Sensitive Areas at Risk: Specific information on resources at risk can be extracted from the Sensitive Areas Section in consultation with the resource trustees. From a general viewpoint, resources in the immediate area of the spill that are at risk include seals and sea lions, otters, waterfowl concentrations, and seabird colonies.

The shoreline geomorphology in the immediate vicinity of the spill is exposed rocky shores. Sand and gravel beaches, exposed wave-cut platforms and sheltered tidal flats can be expected to be impacted from this spill in the early stages due to their proximity to the spill event. The impacts of a spill of this volume are far reaching and would affect a large area. An extensive, coordinated effort between trustee agencies would be necessary to develop a comprehensive approach to environmental impact abatement. The Sensitive Areas Section provides a framework for accomplishing this task. Communities that would most likely be affected are Cape Chichagof and Egegik. In addition, several downstream communities would be impacted by a spill of this magnitude.

Initial Action Description:

1. Notification (Assume the responsible party has notified the required agencies in accordance with the vessel response plan)

FOSC will ensure the following are notified:

- ** ADEC Central Alaska Response Team or 24-hour ADEC reporting contact
- * ADNR
- * ADF&G
- * ADMVA, DHSEM
- ** CGD17 OPCEN, to activate support resources including:
 - District (m), District Office, Marine Safety Division
 - DRG, District Response Group
 - DRAT, District Response Advisory Team
 - PIAT, Public Information Assist Team
 - RRT, Regional Response Team
- ** DOI
- ** NRC, National Response Center
- *** NOAA SSC, Scientific Support Coordinator
- ** NSFCC, National Strike Force Coordinating Center
- ** NPFC, National Pollution Fund Center
- *** Bristol Bay Borough
- *** Local Emergency Managers of directly impacted communities

Key: * = Notification initiated by State
** = Message notification
*** = Notification by FOSC

2. Response Activation

- Commence with notification of all involved parties per the Response Section, providing initial situation assessment. Be brief, concise and provide specific spill information including exact location, quantity spilled, potential threat, and whether product is still being released.
- Ensure the Responsible Party (RP) is notified and responding.
- Dispatch representatives to the scene at the earliest opportunity.
- Establish contact with the responsible party ("qualified individual") as soon as possible, and preferably with an individual on scene.
- Request immediate helicopter support through D17 OPCEN to conduct overflights of vessel. Also, helicopter support may be required if vessel must be evacuated. Request USCG cutter support through D17 OPCEN. Cutter can provide initial on scene platform.
- Commence activation/movement of in-house resources (State and Federal).
- Draft POLREP (USCG) and SITREP (ADEC) and distribute.
- Consult with DOI, DOC, and State of Alaska on potential resources at risk.
- Conduct Endangered Species Act consultation with DOI and DOC.
- Activate FOSC's Historic Properties Specialist.

3. Initial On-Scene Investigation, Inspection, Evaluation & Recommendations

- Gather information from overflights, crew reports, video recordings and any other reliable source to document scene and develop initial response strategy.
- Determine cargo and fuel capacities. Contact last port if immediate cargo amounts are unknown.
- Collect charts and log books for evidence.
- Determine fuel salvage options and lightering potential.
- Issue Notice of Federal Interest and Letter of State Interest.
- Evaluate slick size, direction of travel, weather, area of coverage, proximity to shore, wildlife areas and potential impacts, and other relevant information that might affect response decisions.
- Establish direct communication with the Incident Command Post (ICP), if it is established in the field. If no ICP is established, consider using USCG Sector Anchorage conference room as the initial Command Post while USCG/ADEC personnel are enroute to the field Command Center.

4. Initial Response Actions

- Secure the source, if possible.
- Take actions to stabilize the vessel. Notify USCG Marine Safety Center of vessel information and situation. Request stability information.
- Deploy containment boom and/or plan and prioritize shoreline protection and cleanup areas. Utilize established Geographic Response Strategies (GRS), when possible.
- Evacuate any injured personnel or unnecessary crew members.
- Using **Unified Plan, Annex B** Implement some or all of the Incident Command Systems (ICS) principles listed below:
 - Develop a Unified Command (UC) that includes RPOSC, SOSOC, FOSC and LOSC (if available).
 - Evaluate RP's capability to carry out an appropriate response.
 - Determine name of incident.
 - Determine goals and objectives
 - Determine UC staff and size- Liaison and RSC positions are critical for this region.
 - Establish an appropriate ICP to support UC activities- Plan for Nome.
 - Establish a Joint Information Center (JIC). Ensure joint website and/or appropriate local stakeholder communication plan is used to maximize information sharing.
- Utilize local knowledge, SSC and other NOAA hazmat resources as necessary to predict spill trajectory and potential impacts.
- Prepare initial press release with the Unified Command.
- Complete notification procedures. Include up-channel notification to include the RRT, DRG, DRAT, PIAT, MLCPAC contracting team, NPFC, and NSFCC.
- Issue Notice to Mariners restricting vessel traffic in the immediate vicinity of the incident.
- Issue Notice to Airmen, through the FAA, restricting aircraft traffic in the immediate vicinity of the incident.
- Ensure preparation of Site Safety Plan.
- Consult with Natural Resource Trustees on the protection of sensitive areas and resources.
- Consult with the Historic Properties Specialist on the protection of historic properties.
- Receive recommendations from trustee agencies on wildlife response strategies. Make decision on any recommendations (e.g. migratory bird deterrent and capture and treatment program).
- Determine any fisheries impacts, and take appropriate action.
- Consider alternatives to mechanical response: dispersant application, *in situ* burning, or destruction of

- entire vessel and cargo by burning.
- Schedule routine overflights of the impacted area. Request USCG support in developing an aviation operations plan for the spill to control air traffic in the area.
- Determine feasibility of removal actions based on:
 - Will removal actions cause more damage to the environment than allowing the pollutant to naturally dissipate?
 - Can cleanup be initiated before the pollutant disperses, making recovery impractical?
 - Can equipment be deployed without excessive risk to the life and health of personnel?

5. Spill Response Organization

A spill of this magnitude would not normally be declared a Spill of National Significance (SONS). If the Unified Command determine the spill to be a SONS, the command structure, roles and responsibilities of a SONS scenario are identified in the **Unified Plan, Annex B**. The pre-designated FOSC for the region becomes the Area Operations Coordinator. The SONS incident continues as a Unified Command response. The fact that an incident is declared a SONS does not indicate that the response has been poorly managed or that anyone has performed poorly. The escalation of an incident into a SONS is intended to make more resources and personnel available for the response.

A Liaison Officer will be assigned to act as a sounding board for landowners, leaseholders, affected interest groups that have no jurisdictional authority, and other interested parties. The Regional Stakeholder Committee will be formed to serve as the official stakeholder and community representative voice to the Unified Command.

6. Containment Countermeasures and Cleanup Strategies

- Secure the source, if possible.
- Stabilize the vessel through the best means available; fuel transfer, lightering, etc.
- Reduce the pollution potential by removing fuel from the vessel at the earliest opportunity.
- Boom the vessel at the earliest opportunity, pending favorable weather.
- If mechanical cleanup is not feasible or adequate, consider alternatives of *in situ* burning or dispersants.
- Organize Shoreline Cleanup Assessment Teams in preparation for shoreline surveys.
- Ensure the wildlife protection plan is in place and trustee agencies are working closely with RP to ensure minimum impact to resources in area.
- Ensure that trustee agencies with responsibility for determining the requirement for implementation of a Federal/State Natural Resource Damage Assessment (NRDA) are notified that wildlife may be affected. The lead trustee will then coordinate the NRDA separate from the response and with funds provided by the NPFC.
- Request NOAA provide spill tracking and trajectory modeling to determine present location and path of spill. Consider spill tracking/surveillance systems; the University of Alaska Fairbanks' Synthetic Aperture Radar facility, USCG Forward Looking Infrared Radar equipped aircraft, and USCG Side Looking Airborne Radar are potential resources.

7. Resource Requirements

- a. Equipment: Quick deployment of high volume oil recovery vessels and other mechanical collection equipment is essential to ensure success of the response and to mitigate spill damage. A spill of this size will require all area response equipment as well as out-of-region response equipment in a joint coordinated cleanup effort. A complete list of available equipment for the Bristol Bay subarea is located in section B of this plan. Equipment stored readily available in Dillingham by ACC is located at <http://www.chadux.com/dillingham.html>.
- b. Vessels, Skimmers, Boom, and other Spill Response Equipment:

(1) Given the volume of this spill scenario, it is anticipated that skimming systems will be immediately requested from the major spill cooperatives in Alaska, and deployed to the spill area. (Mutual Aid Agreements between the major spill response co-ops should allow for temporary, out-of-region deployments of major spill response equipment.) Releasing equipment designated for a regulatory response requirement in one area to be used in a response in a different area must be addressed by the Unified Command. The equipment and vessels should arrive on scene with all equipment prepared for immediate deployment. The major spill cooperatives in the State include: Cook Inlet Spill Prevention and Response Inc. (CISPRI); Alyeska Pipeline Service Company (APSC) Ship Escort Response Vessel System (SERVS); Alaska Clean Seas (ACS); Alaska Chadux Corporation (ACC); Southeast Alaska Petroleum Resource Organization (SEAPRO); and the U.S. Navy Supervisor of Salvage (NAVSUPSALV). Resources available include, but is not limited to the following:

Skimmers

- Lamor 30
- Lamor 12
- Manta Ray
- Skimpak 1800
- Desmi Minimax
- Vikoma 12K
- Rovac

Boom: Alaska has one of the largest inventories of boom in the entire nation. Booms of all varieties and sizes can be found in nearby areas. Fire boom for *in situ* burning applications is also in local inventories. Exclusionary and deflection booms and associated mooring and anchoring equipment are also in local inventories.

Vessels of Opportunity: Both CISPRI and SERVS have a fleet of pre-identified and trained large vessels of opportunity. Vessels range in size and construction from landing craft (both large and small), fishing vessels (variety of sizes and horsepower), and numerous other vessels from charter boats for personnel transportation to skiffs for near shore response. CISPRI and SERVS fishing vessel fleets are experienced in boom deployment and have considerable local knowledge. A ready fleet of response vessels experienced in pollution operations meeting HAZWOPER requirements are located in Kodiak, English Bay, Port Graham, Homer, Kenai, and Seldovia all have sizable vessel of opportunity fleets. Seldovia SOS has a response structure to dispatch and support local vessel operations and maintains an

immediate call out list of qualified vessels and personnel. An available armada of response vessels exists with great potential to benefit a spill response if properly supported and managed effectively. Logistical arrangements and support will be necessary to manage any large scale deployments of ocean-going vessels to the incident area in support of cleanup operations.

Personnel: Initial personnel activation will require several hours to days. The Bristol Bay subarea, like much of the state, does not have a substantial cadre of HAZWOPER-trained individuals to man cleanup vessels and participate in other cleanup and response activities.

8. Resource Availability and Resource Procurement

For the purposes of this scenario, it is assumed that agreements would be reached between all involved parties (USCG, State of Alaska, ACC, CISPRI, ACS, SERVS) that would allow the resources of the spill cooperatives to be brought into the response. This assumption does not imply that such agreements are currently in place or that such agreements would be reached. MSRC and NAVSUPSALV are potential resources that could be available for this scenario, if proper agreements could be reached that are acceptable to the involved parties. All these response Co-Ops have highly organized management teams knowledgeable in the ICS structure and routinely exercise their roles as responders. A communications network is already in place and available for immediate usage.

Procuring the resources identified in this spill response is the RP's responsibility. A spill of this magnitude would likely exceed \$1 million each day during the initial stages of the response. Committing this volume of funds in a short time is essential. Failure, on the part of the RP, to quickly settle accounts payable can quickly force local businesses out of business. Experience acquired during past spills has shown that funds must be processed at a much higher than normal rate to maintain the response. The Oil Spill Liability Trust Fund is available to the FOOSC in the event the RP is unable or unwilling to pay the costs of the spill response.

9. Shortfalls

- a. Equipment: A major shortfall in equipment could be expected if the response cooperatives, the State, and the USCG can't develop agreements that will allow all response resources of these groups to be brought to bear. The issues include, but are not limited to, liability, financial arrangements, release from regulatory requirements, and rules for operating facilities with less than the required response equipment. The lack of agreements in place could hinder a response effort that exceeds the capability of an individual response cooperative. No regulatory requirement exists that mandates such mutual aid agreements.

Lighterage for skimmed product is always a consideration when determining the adequacy of a response. Lighterage capability has increased dramatically over the last four years. Part of the lighterage concerns can't be answered without a determination as to whether or not decanting will be allowed and can be planned as part of the response. Fire fighting capability for this scenario is extremely limited. Resources to fight a fire in this scenario would have to be brought from outside the region.

- b. Personnel (logistical/training issues):
- (1) Housing – Local hotels, seafood processing facility mancamps, on-water vessels and barges will be required to sustain the response. Several organizations in Alaska cater "field camp" setups which include housing and feeding facilities. These facilities are available in flyaway form and as floating hotels. Most of these field camps are idle during the winter months in of Alaska.
 - (2) Food - Catering services for field personnel would likely be procured coincidentally with the remote housing units. Catering for response personnel not deployed to the field could be handled using resources within the region.
 - (3) Fuel - Several fuel facilities are located in the subarea. These facilities would be required to supply the numerous vessels operating in the area. Fuel may become a concern given the long term response anticipated for a spill of this magnitude.
 - (4) Transportation: Dillingham is the only major commercial airport located in the immediate vicinity of the spill area, and would serve as the primary logistics supply points. In most cases, equipment must be transported overwater or sling loaded via helicopter. Favorable weather conditions are also a major factor in hindering both air and water transportation for personnel and equipment.
 - (5) Manpower and Training: Shoreline cleanup crews will require OSHA level Hazwoper training commensurate with the tasks they will be directed to perform. Volunteers will not be solicited, and individuals desiring to help will be directed to a central coordinator for hiring emergency response workers.
- c. Funding: Funds availability and access should pose no problem regardless of the financial capabilities of the RP. If funding problems arise, the FOSC has access to the Oil Spill Liability Trust Fund and procedures are in place to make these funds available. The SOSOC, in the event of a State funded response, has access to the 470 Fund and procedures are in place to make these funds available as well.
- If the spill is "federalized," problems have been identified regarding the payment of accounts due. The response organizations will likely be unable financially to expend the amounts of money anticipated if reimbursement occurs on a 30 day payout. Ten days, as a maximum, has been discussed as the period when receipts must be paid. Failure to pay in this time period could result in a collapse of the logistical supply line, and therefore the response. Federal contracting personnel must evaluate this requirement and determine a feasible solution.
- d. Minimum Response Times: Estimates indicate that the RP could have response personnel and equipment on scene within 24-hours of the incident report, pending favorable weather. The response to this spill will depend heavily upon the sea state and weather in the incident area.

10. Spill Cleanup Timetable

The on-water spill response will continue until all recoverable oil is collected or the fall/winter weather forces a halt in operations due to personnel safety. Operations may continue through September depending on weather, specifically the onset of winter storms. Shoreline cleanup will begin as soon as possible after beaches are oiled. The shoreline cleanup can then be expected to resume as soon as spring weather will allow. The number of years required to terminate cleanup operations depends heavily upon the efficiency of the initial on-water response.

11. Disposal Options

Debris disposal is the responsibility of the RP. The volume of oil contaminated debris will exceed the disposal capability of the region, unless on-site disposal methods are approved by the appropriate agencies. The RP must present a disposal plan to appropriate agencies along with necessary permits for the requested disposal plan. Disposal options for debris are limited in Alaska.

Information on waste streams and typical waste products that will be generated during a response is contained in this Subarea plan in the Response Section, Part Two and in the Unified Plan, Annex E, Appendix II. This scenario will generate a very large volume of oil contaminated equipment and recovered product. The remoteness of the region will complicate disposal and elevate the costs of handling and transportation. The availability of shipping and storage facilities make it difficult to comply with the time frames contained in hazardous waste handling regulations. The task of managing waste disposal must be approached aggressively and very early in the response. Facility/vessel owners must investigate and identify potential staging areas for contaminated debris and equipment as well as the potential for long-term storage capabilities due to severe weather preventing timely transportation disposal of accumulated waste. Also, areas designated for cleaning contaminated equipment must be able to handle the contaminated runoff.

12. Cleanup Termination

Termination of cleanup should be a joint decision by the Unified Command based on the following criteria:

- a. There is no longer any detectable oil present on the water, on adjoining shorelines, or in places where it is likely to reach the water again; or
- b. Further removal operations would cause more environmental harm than the oil to be removed; or
- c. Cleanup measures would be excessively costly in view of their insignificant contribution to minimizing a threat to the public health or welfare, or the environment; and
- d. Activities required to repair unavoidable damage resulting from removal actions have been performed.

B. MAXIMUM MOST PROBABLE CASE SCENARIO

The maximum most probable case is determined by the largest recorded oil spill to date in the Bristol Bay subarea. The largest to date was the sinking of a local fishing vessel in Levelock on the Kvichak River. During this event, a total of 3,000 gallons of diesel were released.

Size of the Discharge: 3,000 gallons (of the 4,500 total capacity) of a vessels capacity.

Event Description: The fishing vessel Salmon Ho suffers a marine casualty where the sea-chest valve fails, causing uncontrolled flooding. The crew abandon's ship into a liferaft and is rescued by a good-sam vessel. The F/V Salmon Ho sinks, and immediately starts to discharge all remaining fuel onboard.

Location: Approximate position - Latitude 58° 49' N, Longitude 158° 32' W.

Spill: Approximately 3,000 of diesel are released over a one hour period.

Cargo Salvage: No cargo salvage is conducted due to vessel completely submerged.

Date: April 10

On-scene Weather: Winds: E @ 20 kts, decreasing to 15 kts on second day; Sea State: 10-30ft; Temp: 40

Sensitive Areas at Risk: Specific information on resources at risk can be extracted from the Sensitive Areas Section in consultation with the resource trustees. From a general viewpoint, resources in the immediate area of the spill that are at risk include seals and sea lions, otters, waterfowl concentrations, and seabird colonies.

The shoreline geomorphology in the immediate vicinity of the spill is exposed rocky shores. Sand and gravel beaches, exposed wave-cut platforms and sheltered tidal flats are not expected to be impacted from this spill. The Sensitive Areas Section provides a framework for identifying any at-risk resources.

Initial Action Description:

- 1. Notification:** All notifications identified in the Worst Case Scenario will be utilized in this scenario. See above.
- 2. Response Activation:** Commence with notification of all potentially involved parties and provide initial situation assessment. Be brief but concise and provide specific spill information: exact location, quantity spilled, potential immediate threats, source is/is not controlled, etc. Establish contact with the responsible party as quickly as possible, preferably an individual on scene.
- 3. Initial On-Scene Investigation/Inspection, Evaluation and Recommendations:** Dispatch pollution investigators (Sector Anchorage and DEC NART) to the scene at the earliest opportunity. Aircraft schedules may not allow arrival until the following day depending upon time of spill and time of notification. All information must come from individuals on scene that may or

may not be knowledgeable of emergency procedures or pollution response. Conflicting reports can be expected during the early phases of gathering information.

4. Initial Response Actions:

- Dispatch rep from SECTOR Anchorage and DEC NART (Fairbanks) as needed
- Ensure health and safety of personnel
- Complete notification procedures
- Activate the response structure to the level deemed necessary
- Consult with DOI, DOC, and State of Alaska on potential resources at risk.
- Conduct Endangered Species Act consultation with DOI and DOC.
- Through SSC interaction, determine spill path, resources at risk and wildlife impacts
- Prepare Initial POLREP (USCG)
- Prepare Initial SITREP (State)
- Consult with Natural Resource Trustees on the protection of sensitive areas and resources.
- Consult with the Historic Properties Specialist on the protection of historic properties.
- Receive recommendations from trustee agencies on wildlife response strategies. Make decision on any recommendations (e.g. migratory bird deterrent and capture and treatment program).
- FOSC/SOSC will operate from offices and will not travel to the scene
- Determine feasibility of removal actions based on:
 - 1) Will removal actions cause more damage to the environment than allowing the pollutant to naturally dissipate?
 - 2) Can cleanup be initiated before the pollutant disperses, making cleanup impractical?
 - 3) Can equipment be deployed without excessive risk to the life and health of personnel?

5. Spill Response Organization: Establish the command structure as described in the Unified Plan, Annex B. Include the FOSC, SOSC, RP's Incident Commander, and local community liaison. The group will always strive to reach consensus decisions. Only when the group has reached an impasse and the timeliness of the situation requires action will the FOSC make unilateral decisions.

6. Containment, Countermeasures and Cleanup Strategies: Immediate containment is required to mount an effective recovery operation. Due to the small amount of fuel spilled, boom from the local community could be used to contain the majority of the fuel.

Natural dispersion and evaporation will act to remove the product from the water surface. A spill of this volume will spread, disperse, and evaporate making recovery, if not initially contained, very difficult.

In situ burning and dispersant strategies will not be employed.

A spill of this volume that is not contained immediately but is allowed to spread will likely not be

recoverable under these conditions. The time required to mount an effective response added to the extraordinary travel time and logistical difficulties may make “chasing” this oil spill infeasible.

7. Response Requirements:

- a. **Equipment:** The equipment required in the State and Coast Guard facility response plans should adequately address this spill. It is unlikely that additional equipment can be brought to bear in a timely manner and at a reasonable cost to respond to this spill volume. Natural processes will drastically reduce the spill volume in a matter of hours rather than days.
- b. **Personnel:** Expect to use only local personnel for this response. The crew should be capable of deploying equipment and recovering product without assistance. Trustees and other agencies should not require augmentation or additional manpower to deal with this spill.

8. **Resource Availability and Resource Procurement:** Resources should be on hand to deal with this spill. The volume of product that can be expected to be recovered will be relatively small and additional resources will probably be unnecessary by the time they arrive on scene.

9. Shortfalls

- a. **Equipment:** None anticipated.
- b. **Personnel:** None anticipated.
- c. **Funding:** No funding problems anticipated.
- d. **Minimum Response Times:** Vessel owner should comply with FOSC/SOSC response time guidance.

10. Spill Cleanup Timetable:

- a. **Mechanical Cleanup Only:** Two days.
- b. **Mechanical in Conjunction with Non-Mechanical:** Not applicable.

11. **Disposal Options:** Debris disposal is the responsibility of the RP. A small volume of oil contaminated debris will likely be produced. The RP must dispose of contaminated debris according to existing laws. The RP will typically be knowledgeable in the methods and requirements for disposing of small quantities of oiled debris.

12. **Cleanup Termination.** Termination of cleanup should be a joint decision by the Unified Command based on the following criteria:

- a. There is no longer any detectable oil present on the water, adjoining shorelines, or places where it is likely to reach the water again; or
- b. Further removal operations would cause more environmental harm than the oil to be removed; or

- c. Cleanup measures would be excessively costly in view of their insignificant contribution to minimizing a threat to the public health and welfare; and activities required to repair unavoidable damage resulting from removal actions have been performed.

C. AVERAGE MOST PROBABLE CASE SCENARIO

The average most probable case is determined by the greatest percentage of average spills in the area over the past ten years. For the Bristol Bay Borough, over 50% of oil spills were less than 10 gallons with storage facilities accounting for 90% of spill locations.

Size of the Discharge: Approximately 50 gallons of No. 1 diesel fuel.

Event Description: A lightering vessel is transferring fuel to the Egegik AVEC bulk fuel storage facility when the 4 inch transfer hose ruptures near the marine header.

Location: Approximate position - Latitude 58° 13' N, Longitude 157° 22' W.

Spill: Approximately 50 gallons of arctic diesel.

Cargo Salvage: Upon discovery of the rupture, the transfer pump is secured and the valves at the marine header and aboard the lightering vessel are closed, preventing the loss of additional cargo.

Date: April 10

On-scene Weather: Winds: W @ 25 kts, decreasing to 15 kts on second day; Sea State: 10-30ft; Temp: 40

Sensitive Areas at Risk: Specific information on resources at risk can be extracted from the Sensitive Areas Section in consultation with the resource trustees. From a general viewpoint, resources in the immediate area of the spill that are at risk include seals and sea lions, otters, waterfowl concentrations, and seabird colonies.

The shoreline geomorphology in the immediate vicinity of the spill is exposed rocky shores. Sand and gravel beaches, exposed wave-cut platforms and sheltered tidal flats are not expected to be impacted from this spill. The Sensitive Areas Section provides a framework for identifying any at-risk resources.

Initial Action Description:

1. **Notification:** All notifications identified in the Worst Case Scenario will be utilized in this scenario. See above.
2. **Response Activation:** Commence with notification of all potentially involved parties and provide initial situation assessment. Be brief but concise and provide specific spill information: exact location, quantity spilled, potential immediate threats, source is/is not controlled, etc. Establish contact with the responsible party as quickly as possible, preferably an individual on scene.
 - a. **Initial Response Actions On-Scene:**
 - Alert vessel tankerman to secure pumping
 - Secure electrical power and sources of ignition
 - Close valves to prevent the flow of fuel through the ruptured hose
 - Maintain a safety zone due to health hazards; evacuate personnel as necessary

- Ensure proper PPE is available and used by responders
- Alert the Bristol Bay Borough to activate the initial ICS
- Contain and recover the charged product
- Properly dispose of recovered oil and oily waste
- Properly decontaminate all oiled response equipment
- Consult with DOI, DOC, and the State of Alaska on potential resources at risk and the need for Endangered Species Act consultation with DOI and DOC.

b. Initial Agency Evaluation and Recommendations:

- FOSC/SOSC/RP establish direct communications
- Evaluate the RP's response capabilities
- As required, dispatch representatives to the scene at the earliest opportunity
- Ensure health and safety of all individuals
- Consult with natural resource trustees on the protection of sensitive areas and resources.
- Receive recommendations from trustee agencies on wildlife response strategies. Make decision on any recommendations (e.g. migratory bird deterrent and capture and treatment program).
- Coordinate with local emergency response personnel to establish a Safety Zone, as necessary
- Determine feasibility of removal actions based on the following considerations:
 - 1) Will removal actions cause more damage to the environment than allowing the pollutant to naturally dissipate?
 - 2) Can cleanup be initiated before the pollutant disperses, making cleanup impractical?
 - 3) Can equipment be deployed without excessive risk to the life and health of personnel?
- Ensure development of a Site Safety Plan
- Prepare initial POLREP (USCG)
- Prepare initial SITREP (State)

3. Spill Response Organization: No command structure will be needed for a spill of this size. USCG and State DEC will monitor and dispatch personnel as needed.

4. Containment, Countermeasures and Cleanup Strategies: Due to the small amount of discharged product, nature of diesel fuel, and weather conditions, the product will likely weather quickly through evaporation and emulsification. Safety of response personnel is of primary importance, as is early detection of the rupture and quick action to secure flow of product through the hose and contain the spill.

5. Response Requirements:

a. **Equipment:** Personal Protective Equipment for response personnel required to approach

the vicinity of the spill is mandatory.

- b. **Personnel:** Facility personnel and other emergency response personnel will likely be the most crucial individuals in this scenario.

6. Resource Availability and Resource Procurement. The RP is required to have resources on hand to respond to spills. It is anticipated that adequate resources would be available from the RP to respond to this event. In the event the RP does not have adequate equipment, the Bristol Bay Borough maintains some response equipment that may be available, through appropriate agreements, for this scenario. Out-of-region resources are not considered necessary for this response.

7. Shortfalls

- a. **Equipment:** No shortfall of cleanup equipment is anticipated.
- b. **Personnel:** No shortfalls in personnel are anticipated.
- c. **Funding:** Funds availability and access are not anticipated to be a problem due to identification of a responsible party. Federal and State could access their respective spill funds if necessary.
- d. **Minimum Response Times:** Response times in excess of one hour may prove futile with regard to recovering any free product or containment to control the migration and areas impacted by the spill. Emergency response personnel should respond immediately to the spill site to maintain safety.

8. Spill Cleanup Timetable:

- a. **Mechanical Cleanup Only:** One day.
- b. **Mechanical in Conjunction with Non-Mechanical:** Not applicable.

9. Disposal Options: Debris disposal is the responsibility of the RP. Limited amount of contaminated debris will likely be produced. Disposal procedures must meet Federal and State requirements. The RP will typically be well versed in these procedures due to the nature of their fuel handling operations.

10. Cleanup Termination: Termination of cleanup should be a joint decision by the Unified Command based on the following criteria:

- a. There is no longer any detectable oil present on the water, adjoining shorelines, or places where it is likely to reach the water again; or
- b. Further removal operations would cause more environmental harm than the oil to be removed; or
- c. Cleanup measures would be excessively costly in view of their insignificant contribution to minimizing a threat to the public health and welfare; and activities required to repair unavoidable damage resulting from removal actions have been performed.

SCENARIOS: PART TWO – HAZMAT

Situation: A seafood facility in Naknek sustains an ammonia release due to a valve failure. Approximately 1,500 pounds of anhydrous ammonia is released from the facility and threatens the local community.

Location: Naknek, 58°43.97'N 157°01.20'W.

Release Information: The ammonia cloud exits the facility and proceeds to move downwind towards the populated area of Naknek.

Sensitive areas at risk: General population at Naknek.

Date/Time: May - 8:30 am.

On Scene weather: Temp: mid 30's, overcast with light rain, winds: westerly at 15 knots.

Notifications. The ADEC is notified of the situation by the Bristol Bay Borough emergency services personnel. The ADEC notifies the Coast Guard (Sector Anchorage) FOSC of the situation. They proceed with notifying other Federal agencies. ADEC notifies other state agencies. Because the release poses a life-threatening situation, the ADEC activates the Statewide Hazmat Response Team in both Fairbanks and Anchorage, and also places an ADEC term contractor on alert. The Coast Guard FOSC may have EPA activate their contractor as well to provide technical support to the team. The Ammonia Group is also placed on alert and requested to provide any additional technical assistance. The initial response team will be composed of an ADEC representative, the Coast Guard FOSC, a member from EPA and a contractor representative, a member of the Statewide Hazmat Response Team, and possibly a member of the Ammonia Group. The follow-on team will consist of members of the Statewide Hazmat Response Team and other support personnel.

Initial Response Actions. The initial response team in Anchorage gathers basic equipment and departs for the scene via commercial or charter air, whichever is most expedient.

The FOSC and SOSC notify the facility owner of their responsibilities to contain and control the release. The Responsible Party indicates that the facility's response capability is extremely limited and they will not be able to re-enter the facility to control the source. The State and Federal OSCs reach an agreement with the Responsible Party and borough emergency response officials to take whatever measures necessary to respond to the release.

Equipment Mobilization and Deployment. The follow-on Statewide Hazmat Response Team has marshaled their team and equipment in Anchorage and are ready to deploy via charter aircraft to King Salmon. Estimated time of arrival of the team is anticipated to be sometime in the early afternoon.

Public Protection. Local protection priorities in Naknek include: Ensure protection of the general public through sheltering in-place or evacuation to a safe location

Response Actions. Local emergency response officials immediately notify the local populace to shelter in-place if possible. Detailed shelter in-place instructions are provided over the radio and public address system. If evacuation becomes necessary, local officials have determined an appropriate process for evacuating the general public via a safe route to a pre-determined area.

Upon arrival of the initial response team, emergency response personnel in proper PPE and equipped with ammonia detectors are tasked to deploy and monitor readings downwind from the release.

The Ammonia Group technical advisor reviews the plant schematics with the plant manager, and attempts to determine the approximate location of the release source. An entry plan is developed prior to the arrival of the Statewide Hazmat Response Team.

Upon arrival of the team, a three-stage entry process is determined to be the best approach. The first entry will be to ventilate the facility using portable, positive pressure ventilation fans. The second entry team will determine the location of the release source, and the third team will secure the source by closing off upstream valves.

Personnel who may have been exposed to the ammonia vapors will be treated locally or airlifted to the nearest hospital, depending on the nature of their injuries.

Clean Up and Recovery. Upon securing the source, the Statewide Hazmat Response Team will be released back to their normal work location (Anchorage or Fairbanks). The EPA contractor and the ADEC contractor will continue with periodic air monitoring until the facility owner is able to effect permanent repairs to the ammonia refrigeration system.

SCENARIOS: PART THREE – INLAND OIL

A. WORST CASE SCENARIO

This scenario is based on the Facility Response Plan for the Iguigig Village Council tank farm.

Size of the Discharge: 24,600 gallons diesel

Event Description: Tank V6 at the Iguigig Village Council tank farm sustained a catastrophic failure of unknown cause in the early morning hours of September 20th resulting in a substantial discharge of diesel. Additionally, there was failure of secondary containment allowing a large amount of the fuel to escape containment. It appears that a valve on the secondary containment berm was open. The tank was full at the time of the release and the entire contents were lost. The Kvichak River is approximately 100 feet from the tank farm, and there is visible fuel in the river.

Location: Iguigig, AK, Latitude 59° 20'N; Longitude 155° 54'W.

Spill: Approximately 24,600 gallons diesel with 10,000-15,000 gallons released outside of secondary containment. Much of this volume has penetrated the soil or traveled to the Kvichak River.

Date: September 20

On-scene Weather: Temp: High 40° F, Low 20° F; Winds: SW @ 15 mph;

Precipitation: The region has been experiencing heavy rainfall, receiving 3 inches of rain in the previous 48 hours. Additional rain is forecasted for the next 3 days.

Sensitive Areas at Risk: Specific information on resources at risk can be extracted from the Sensitive Areas Section in consultation with the resource trustees. From a general viewpoint, resources in the immediate area of the spill that are at risk include the Kvichak River, and the waterfowl and fish species that utilize these waters. The Kvichak River near Iguigig is consists of many islands and bars, breaking the river into multiple narrow, shallow channels. Assuming a 2 knot current, it is anticipated that the extent of fuel will reach Bristol Bay, 60 miles downstream, 26 hours after fuel enters the river. The actual current may be faster.

The Kvichak River System, including the Alagnak (Branch) River and Iliamna Lake, is the single most important source of salmon in the Bristol Bay area. All five species of Pacific salmon spawn in the river and its tributaries. During the month of September, Coho salmon are found in the river. These salmon are important subsistence food source. September is also a key time for fishing in the only designated Trophy Rainbow Trout area in Alaska. Commercial and subsistence fishing sustain the community. Seven sportfishing lodges are located near Iguigig.

The land surrounding the Kvichak River is an important breeding area for migratory waterfowl, and some late migrating birds are still in the area.

Initial Action Description:

1. Notification: (Assume the responsible party has notified the required agencies in accordance with the facility response plan). Facility personnel notify the NRC and the ADEC. The NRC notifies EPA Region 10 Alaska Operation’s Office personnel who then notify appropriate Federal agencies including Natural Resource Trustees.

FOSC (EPA will notify the following):

- *** ADEC (also notified by the responsible party)
- * ADNR
- * ADF&G
- * ADMVA, DHSEM
- *** ARRT
- *** NRC, National Response Center
- *** USCG
- *** DOI
- *** DOC
- *** NOAA SSC, Scientific Support Coordinator
- ** NSFCC, National Strike Force Coordinating Center
- ** NPFC, National Pollution Fund Center
- *** Local Emergency Managers of directly impacted communities
- *** Federally-recognized tribes in impacted communities

Key: * = Notification initiated by State
** = Message notification
*** = Notification by FOSC

Response Activation:

- Commence with notification of all potentially involved parties and provide initial situation assessment. Be brief but concise and provide specific spill information: exact location, quantity spilled, potential immediate threats, source is/is not controlled, etc.
- Dispatch representatives to the scene at the first opportunity
- FOSC/SOSC/PRP Representatives establish direct communications.
- Begin recall of local in-house personnel (EPA, ADEC, ADNR, etc.) as needed to support 24-hour operations for a spill of this magnitude.
- Evaluate spill size, direction, area of coverage, proximity to Kvichak River, wildlife impacts, wildlife observed in area, on scene weather, etc.
- Determine what response actions have occurred or are underway
- Issue Notice of Federal Interest and State Interest to PRP
- Consult with DOI, DOC and the State of Alaska on potential resources at risk.
- Conduct Endangered Species Act consultation with DOI and DOC.
- Activate FOSC’s Historic Properties Specialist.

Initial On-Scene Investigation/Inspection, Evaluation and Recommendations:

- Dispatch pollution investigators (EPA Anchorage and DEC NART) to the scene at the earliest opportunity. Aircraft schedules may not allow arrival until the following day depending upon time of spill and time of notification.
- Recognize that information will come from individuals on scene that may or may not be knowledgeable of emergency procedures or pollution response. Conflicting reports can be expected during the early phases of gathering information.
- Ensure notification of resource trustees using the Emergency Notification Checklist.
- Evaluate PRP's plan for securing the source.
- Evaluate the capability of the PRP to carry out an appropriate response given the situation.
- Prepare Initial POLREP (EPA).
- Prepare Initial SITREP (State).
- Instruct PRP to determine his/her ability to mechanically recover spilled product prior to reaching Kvichak River; in the waters of Kvichak River; and potentially in Bristol Bay.

Initial Response Actions:

- *Secure the Source. The secondary containment area is sealed/valve closed to prevent additional discharge. The facility response team and additional local/regional resources are activated.*
- *The Federal/State Unified Plan and Bristol Bay Subarea Contingency Plan are also implemented.*
- Using **Unified Plan, Annex B** Implement the Incident Command Systems (ICS) principles listed below. An EPA Federal On-Scene Coordinator (FOSC) and an ADEC State On-Scene Coordinator (SOSC) contact the facility Incident Commander and establish a Unified Command. By 5:00 PM that night a Unified Command and incident management team composed of industry, federal, state and local government personnel arrive at the U.S. EPA warehouse in Anchorage, AK. Additional initial Unified Command tasks include:
 1. Evaluate PRP's capability to carry out an appropriate response.
 2. Determine name of incident.
 3. Determine goals and objectives
 4. Determine UC staff and size- Liaison and RSC positions are critical for this region.
 5. Establish an appropriate ICP to support UC activities- Plan for either Naknek or King Salmon.
 6. Establish a Joint Information Center (JIC). Ensure joint website and/or appropriate local stakeholder communication plan is used to maximize information sharing.
- The ADEC SOSC initiates a statewide callout for a Type 1 incident. Additional ADEC spill responders from other response areas are mobilized, and the SOSC also requests mobilization of other State agency support personnel.
- The ADEC SOSC and EPA FOSC also activate the ADEC term contractors and EPA START contractors, respectively. The contractors are notified for possible mobilization to assist with the federal and state oversight operation.
- Both Federal and State field observers are deployed to the initial control sites to monitor clean up operations and advise the FOSC and SOSC of the status of on-going operations.

- Deploy containment boom and/or plan and prioritize shoreline protection and cleanup areas. Utilize established Geographic Response Strategies (GRS), when possible (available only for coastal areas).
- Utilize local knowledge, SSC and other NOAA hazmat resources as necessary to predict spill trajectory and potential impacts.
- Establish local (Anchorage) command post while individuals are en route to the field command post and plan for relocation to the Bristol Bay region.
- Prepare initial press release with the Unified Command.
- Complete notification procedures. Include up-channel notification to include the RRT, NPFC, and NSFCC.
- Issue Notice to Airmen, through the FAA, restricting aircraft traffic in the immediate vicinity of the incident.
- Ensure preparation of Site Safety Plan.
- Consider alternatives to mechanical response: dispersant application, *in situ* burning. The use of dispersants is not appropriate due to the inland/fresh water location of spill and time of year.
- Schedule routine overflights of the impacted area. Request FAA support in developing an aviation operations plan for the spill to control air traffic in the area.
- In consultation with trustee agencies, determine requirements for wildlife protection, collection, and rehabilitation.
- Consult with natural resource trustees on the protection of sensitive areas and resources.
- Consult with the Historic Properties Specialist on the protection of historic properties.
- Receive recommendations from trustee agencies on wildlife response strategies. Make decision on any recommendations (e.g. migratory bird deterrent and capture and treatment program.)
 - Initiate wildlife hazing.
 - Additional measures may be initiated during subsequent operational periods, beyond the initial response.
- Determine feasibility of removal actions based on:
 1. Will removal actions cause more damage to the environment than allowing the pollutant to naturally dissipate?
 2. Can cleanup be initiated before the pollutant disperses, making recovery impractical?
 3. Can equipment be deployed without excessive risk to the life and health of personnel?
- Considerations for future actions:
 - EPA will maintain the FOSC throughout the spill response due to the largest impacts occurring in the inland zone. USCG Sector Anchorage would be requested to assist with response activities in the coastal zone.
 - Determine any fisheries impacts, including subsistence fisheries, and take appropriate action.

Spill Response Organization:

A spill of this magnitude may be declared a Spill of National Significance (SONS). If the Unified Command determines the spill to be a SONS, the command structure, roles and responsibilities of a SONS scenario are identified in the **Unified Plan, Annex B**. The pre-designated FOSC for the region becomes the Area Operations Coordinator. The SONS incident continues as a Unified Command response. The escalation of an incident into a SONS is intended to make more

resources and personnel available for the response.

A Liaison Officer will be assigned to act as a sounding board for landowners, leaseholders, affected interest groups that have no jurisdictional authority, and other interested parties. The Regional Stakeholder Committee will be formed to serve as the official stakeholder and community representative voice to the Unified Command.

Containment, Countermeasures and Cleanup Strategies:

Immediate containment is required to mount an effective recovery operation.

A spill of this volume that is not contained immediately but is allowed to spread will likely not be recoverable under these conditions. The time required to mount an effective response added to the extraordinary travel time and logistical difficulties will make this operation a challenge.

- In accordance with the tank farm's Facility Response Plan, response tactics to contain and cleanup the spill are implemented. Primary objectives are:
 - Prevent oil from reaching the Kvichak River. Containment dikes and trenches using handtools and earthmoving equipment will be constructed.
 - Prevent oil from traveling downstream and entering Bristol Bay. Sorbent Boom applied at the point(s) of entry into the river and additional points downstream as current and terrain allow.Tactics to achieve these objectives include:
 - Contain spill on land, to extent possible, with containment dikes and trenches constructed using handtools and earthmoving equipment
 - Use booms to contain oil at point of entry and in side channels of the Kvichak River.
 - Recovery of oil in river using sorbent material (sweeps and booms).
- Organize Shoreline Cleanup Assessment Teams (SCAT) in preparation for shoreline surveys.
- Ensure the migratory bird deterrent, capture and treatment program is in place.
- Ensure that trustee agencies with responsibility for determining the requirement for implementation of a Federal/State Natural Resource Damage Assessment (NRDA) are notified that wildlife may be affected. The lead trustee will then coordinate the NRDA separate from the response and with funds provided by the NPFC.
- Request NOAA provide spill tracking and trajectory modeling to determine present location and path of spill. Consider spill tracking/surveillance systems; the University of Alaska Fairbanks' Synthetic Aperture Radar facility, USCG Forward Looking Infrared Radar equipped aircraft, and USCG Side Looking Airborne Radar are potential resources.

Response Requirements:

- a. **Equipment:** The nearest equipment will be located at the tank farm facility. This equipment will need to be augmented with additional equipment, including but not limited to boom, vacuum units, super suckers, earth moving equipment and other oil recovery equipment to insure timely recovery. It is possible that additional equipment can be brought in a timely manner from regional partners, but it will likely be shipped in from Anchorage, via King Salmon.

Quick deployment of containment measures, high volume oil recovery equipment and other mechanical collection equipment is essential to ensure success of the response and to mitigate spill damage. A spill of this size and location will require all area response equipment as well as out-of-region response equipment in a joint coordinated cleanup effort. Section B of this plan (Bristol Bay SCP) includes a list of some of the equipment available in or deployable to the Bristol Bay subarea.

- b. **Personnel:** Initial facility response personnel would likely have to be augmented by local and mutual aid partners. The facility crews should be capable of deploying equipment and recovering product with assistance of other partners.
- c. **Additional Mobilization of Government Personnel:** This scenario contemplates a response beyond the ability of the facility and local personnel. In such an instance the Federal On-Scene Coordinator and State On-Scene Coordinator will provide oversight of the response through the Unified Command. Additional federal and state agencies with roles and responsibilities in the federal and state response systems as detailed in the National Contingency Plan and the Alaska Unified Plan will be integrated into appropriate sections within the incident command system. The following provides examples of such integration but is not meant to be totally inclusive of all-possible roles and responsibilities for assisting agencies.

Operations oversight of field teams will be accomplished by placing government monitors from EPA, US Coast Guard's Pacific Strike Team, and ADEC personnel with industry task forces.

Shoreline Clean up Assessment Teams utilized to survey spill impacted areas and recommend treatment methods will be composed of EPA, ADEC, state land managers, cultural resource specialists and industry representatives. Composition of teams will follow general guidance found in NOAA HAZMAT publications and other pertinent documents.

Individuals from USFWS and ADF&G will monitor wildlife teams involved in hazing and capture.

The Incident Management Team's planning section will be supplemented with technical specialists from the following government agencies;

- Waste Management - EPA / ADEC
- Wildlife Protection – USFWS / ADF&G
- Cultural Resource Protection – Federal & State Cultural Resource Contract Specialists
- Land Management – ADNR

These personnel will facilitate the overall response operation by assisting the FOSC and SOSC in authorizing and permitting activities under their jurisdiction when appropriate. This is not an all-inclusive list.

Resource Availability and Resource Procurement.

For the purposes of this scenario, it is assumed that agreements would be reached between all involved parties (EPA, USCG, State of Alaska, Iguigig Village Council) that would allow the resources of the spill cooperatives to be brought into the response. This assumption does not

imply that such agreements are currently in place or that such agreements would be reached. A communications network is already in place and available for immediate usage.

Procuring the resources identified in this spill response is the PRP's responsibility. A spill of this magnitude would likely exceed \$100,000 per day during the initial stages of the response. Committing this volume of funds in a short time is essential. Failure, on the part of the PRP, to quickly settle accounts payable can quickly force local businesses out of business. Experience acquired during past spills has shown that funds must be processed at a much higher than normal rate to maintain the response. The Oil Spill Liability Trust Fund is available to the FOSC in the event the PRP is unable or unwilling to pay the costs of the spill response. Any FOSC or State expenses not directly covered by the PRP would be paid through the Federal Oil Spill Liability Trust Fund or the State 470 Fund, and reimbursement would be sought at a later date.

Shortfalls

- a. **Equipment:** The primary equipment shortages are expected to be in regards to specialized transportation equipment: helicopters and air boats. Adequate PPE on or near water will also be a concern and not initially available in adequate quantities. "Mustang" suits, float coats, dry suits, or inflatable PFDs will be preferable for sustained operations compared to cool weather clothing plus a standard PFD.

- b. **Personnel:** None anticipated.
 - (1) Housing – Nearest available housing is likely in King Salmon and Naknek. On-site "field camps" will be required to sustain the response. Several organizations in Alaska cater "field camp" setups which include housing and feeding facilities. These facilities are available in flyaway form. However, these camps may have limited availability/already be in use in late September. It is expected that field camp facilities for housing, dining and work space will need to be transported to the site from vendors in the Lower 48. This may take several days to arrange, transport and set-up. Additional considerations for a field camp will include water, electricity and heating. Depending on the location(s) of field camps, existing gravel pads may not be sufficient for staging. Arrangements will need to be made with ADEC and industry for the construction of additional gravel pads or re-siting camp and staging area locations.

 - (2) Food - Catering services for field personnel would likely be procured coincidentally with the remote housing units. Catering for response personnel not deployed to the field could be handled using resources within the region. However, catering service may need to be brought in from Anchorage, AK.

 - (3) Fuel –Arrangements for remote fueling stations would need to be arranged to supply the vehicles and equipment operating in the area.

 - (4) Transportation: King Salmon is the only major commercial airport located in the immediate vicinity of the spill area, and would serve as the primary logistics supply points. Dillingham is an alternate airport in the Bristol Bay region in the event that flights into King Salmon are unavailable. The Kvichak River is navigable from Bristol Bay, with Naknek serving as the port for any vessels traveling upriver. Favorable weather conditions are also a major factor in transportation for personnel and equipment.

Air Transportation: Helicopters will be required to transport personnel to areas inaccessible by boat or ATV. Fixed wing aircraft may be utilized for overflights to assess conditions, but will have limited functionality in other response activities.

Boats: The Kvichak River is navigable from Bristol Bay, with Naknek serving at the port for any vessels traveling upriver. The number of readily available boats, capable of handling the conditions of the Kvichak River will likely be limited and arrangement for the procurement and hiring of these boats will need to be addressed in the response.

(5) Manpower and Training: Shoreline cleanup crews will require OSHA level Hazwoper training commensurate with the tasks they will be directed to perform. Volunteers will not be solicited, and individuals desiring to help will be directed to a central coordinator for hiring emergency response workers.

- c. **Funding:** Funds availability and access should pose no problem regardless of the financial capabilities of the PRP. If funding problems arise, the FOSC has access to the Oil Spill Liability Trust Fund and procedures are in place to make these funds available. The SOSC, in the event of a State funded response, has access to the 470 Fund and procedures are in place to make these funds available as well.

If the spill is "Federalized," problems have been identified regarding the payment of accounts due. The response organizations will likely be unable financially to expend the amounts of money anticipated if reimbursement occurs on a 30 day payout. Ten days, as a maximum, has been discussed as the period when receipts must be paid. Failure to pay in this time period could result in a collapse of the logistical supply line, and therefore the response. Federal contracting personnel must evaluate this requirement and determine a feasible solution.

- d. **Minimum Response Times:** Emergency response personnel should respond as soon as possible to the spill site with safety parameters in mind. Travel into Iguigig is by charter flight or boat and expected to be 1-2 hours minimum for arrangements plus travel time from King Salmon. Flight time from Anchorage to King Salmon is 1 hour 20 minutes.

Spill Cleanup Timetable:

The spill response will continue until all recoverable oil is collected. Riverbank and shoreline cleanup will begin immediately. On-land cleanup will continue until all recoverable oil is collected and satisfactory soil cleanup levels are reached, as determined by ADEC. The initial response phase is expected to transition to a management phase after 1 month. Shoreline cleanup will continue until freeze-up.

Ongoing monitoring may continue beyond this period. Depending on the extent of oil released into surrounding tundra and muskeg or to wetlands adjacent to the Kvichak River, oil may continue to leach out for an extended period of time, and would require monitoring.

Disposal Options:

Debris disposal is the responsibility of the PRP. The volume of oil contaminated debris will exceed the disposal capability of the region, unless on-site disposal methods are approved by the

appropriate agencies. The PRP must present a disposal plan to appropriate agencies along with necessary permits for the requested disposal plan. Disposal options for debris are limited in Alaska.

Information on waste streams and typical waste products that will be generated during a response is contained in this Subarea plan in the Response Section, Part Two and in the **Unified Plan, Annex E, Appendix II**. This scenario will generate a large volume of oil contaminated equipment and recovered product. The remoteness of the region will complicate disposal and elevate the costs of handling and transportation. The availability of shipping and storage facilities make it difficult to comply with the time frames contained in hazardous waste handling regulations. The task of managing waste disposal must be approached aggressively and very early in the response. Facility/vessel owners must investigate and identify potential staging areas for contaminated debris and equipment as well as the potential for long-term storage capabilities due to severe weather preventing timely transportation disposal of accumulated waste. Also, areas designated for cleaning contaminated equipment must be able to handle the contaminated runoff.

Cleanup Termination.

Termination of cleanup should be a joint decision by the Unified Command based on the following criteria:

- a. There is no longer any detectable oil present on the water, on adjoining shorelines, or in places where it is likely to reach the water again; or
- b. Further removal operations would cause more environmental harm than the oil to be removed; or
- c. Cleanup measures would be excessively costly in view of their insignificant contribution to minimizing a threat to the public health or welfare, or the environment; and
- d. Activities required to repair unavoidable damage resulting from removal actions have been performed.

B. AVERAGE MOST PROBABLE CASE SCENARIO

In the Bristol Bay Borough, over 50% of oil spills were less than 10 gallons, however, a small release such as this is unlikely to require outside resources to respond to the spill. This scenario is designed to be a typical spill that would require response assistance beyond of immediately available and local resources.

Size of the Discharge: 2,500 gallons of No. 1 diesel fuel.

Event Description: A valve was left open on a tank at the Alaska Village Electric Cooperative (AVEC) tank farm in New Stuyahok. In addition, the valve on the secondary containment was found to be open, allowing a release of approximately 2,500 gallons of diesel to the environment. There is an accumulation of diesel on the surface of the adjacent sewage lagoons. Diesel has also travel overground to the Nushagak River, 550 feet from the facility. Fuel has also accumulated in ditches along Birch Street and along the pipeline route which runs between the facility and river, adjacent to the school grounds.

Location: Approximate position - Latitude 59° 29' N, Longitude 157° 20' W.

New Stuyahok is located on the Nushagak River, 12 miles upstream from Ekwok and approximately 80 miles upstream of Dillingham (52 miles northeast of Dillingham by air).

Spill: Approximately 2,500 gallons of diesel.

Date: June 10

On-scene Weather: Temp: High 58° F, Low 35° F; Winds: SW @ 15 mph;
Precipitation: None.

Sensitive Areas at Risk: Specific information on resources at risk can be extracted from the Sensitive Areas Section in consultation with the resource trustees. From a general viewpoint, resources in the immediate area of the spill that are at risk include the Nushagak River and the waterfowl and fish species that utilize these waters. Assuming a 2 knot current, is anticipated that the extent of fuel will reach the marine and/or tidally influenced waters of lower Nushagak River and Nushagak Bay approximately 75 miles downstream, 37.5 hours after fuel enters the river.

The Nushagak River System is an important source of salmon in the Bristol Bay area, with all five salmon species spawning in the river. Commercial, subsistence and sport fishing are important in the area. Most notable is the annual run of King (Chinook) Salmon which occurs from mid-June to mid-July.

The area surrounding the Nushagak River is an important breeding area for migratory waterfowl, which will be migrating in/through the area at this time and breeding in the vicinity .

Initial Actions:

1. **Notification:** All notifications identified in the Worst Case Scenario will be utilized in this scenario. See above.
2. **Response Activation:** Commence with notification of all potentially involved parties and provide initial situation assessment. Be brief but concise and provide specific spill information:

exact location, quantity spilled, potential immediate threats, source is/is not controlled, etc. Establish contact with the responsible party as quickly as possible, preferably an individual on scene. Begin recall of local in-house personnel (EPA, ADEC, ADNR, etc.) as needed to support a spill of this magnitude.

3. **Initial On-Scene Investigation/Inspection, Evaluation and Recommendations:**

- Dispatch representatives to the scene at the earliest opportunity.
- FOSC/SOSC/PRP establish direct communications
- Ensure health and safety of all individuals
- Coordinate with local emergency response personnel to establish a Safety Zone
- Evaluate the RP's response capabilities

4. **Initial Response Actions On-Scene:**

- Stop any discharge from the truck, if possible
- Maintain a safety zone
- Ensure proper PPE is available and used by responders
- Activate the response structure to the level deemed necessary
- Establish a command post
- Evaluate PRP's initial actions and evaluate capability to carry out response
- Prepare Initial POLREP (EPA)
- Prepare Initial SITREP (State)
- Ensure development of a Site Safety Plan
- As required, dispatch representatives to the scene at the earliest opportunity (EPA and/or State)
- Determine feasibility of removal actions based on:
 - a. Will removal actions cause more damage to the environment than allowing the pollutant to naturally dissipate?
 - b. Can cleanup be initiated before the pollutant disperses, making cleanup impractical?
 - c. Can equipment be deployed without excessive risk to the life and health of personnel?

Spill Response Organization: No command structure will be needed for a spill of this size. USCG and State DEC will monitor and dispatch personnel as needed.

Containment, Countermeasures and Cleanup Strategies: Due to the small amount of discharged product, nature of diesel fuel, and location the majority of release product is expected to be on land and in the sewage lagoon. Terrestrial containment and diversion measures are the primary containment and control techniques, with boom deployed at the point of entry(s) into the river. Safety of response personnel is of primary importance, as is early detection of the rupture and quick action to secure flow of product by closing the open valves.

Response Requirements:

- a. **Equipment:** Personal Protective Equipment for response personnel required to approach the vicinity of the spill is mandatory.
- b. **Personnel:** Facility personnel, additional AVEC personnel, and other emergency response personnel will likely be the most crucial individuals in this scenario. AVEC

contracts with Chadux for spill response support. Additional personal and equipment will be procured for the response through Chadux.

Resource Availability and Resource Procurement. The PRP is required to have resources on hand to respond to spills. It is anticipated that adequate resources would be available from the PRP to respond to this event. In the event the PRP does not have adequate equipment, ADEC maintains some response equipment that may be available, through appropriate agreements, for this scenario. A contractor will likely be procured to assist the PRP with the response and cleanup.

Shortfalls

- a. **Equipment:** No shortfall of cleanup equipment is anticipated.
- b. **Personnel:** No shortfalls in personnel are anticipated.
- c. **Funding:** Funds availability and access are not anticipated to be a problem due to identification of a responsible party. Federal and State could access their respective spill funds if necessary.
- d. **Minimum Response Times:** Response times in excess of one hour may prove futile with regard to recovering any free product or containment to control the migration and areas impacted by the spill. Emergency response personnel should respond immediately to the spill site to maintain safety.

Spill Cleanup Timetable:

- a. **Mechanical Cleanup Only:** Cleanup likely by mechanical means. It is expected that cleanup will be complete by the end of summer.
- b. **Mechanical in Conjunction with Non-Mechanical:** Non-mechanical options are not considered viable for response to this scenario.

Disposal Options: Debris disposal is the responsibility of the PRP. Limited amount of contaminated debris will likely be produced. Disposal procedures must meet Federal and State requirements. The PRP will prepare a cleanup/waste disposal plan and submit to ADEC for approval.

Cleanup Termination: Cleanup Termination. Termination of cleanup should be a joint decision by the Unified Command based on the following criteria:

- a. There is no longer any detectable oil present on the water, adjoining shorelines, or places where it is likely to reach the water again; or
- b. Further removal operations would cause more environmental harm than the oil to be removed; or
- c. Cleanup measures would be excessively costly in view of their insignificant contribution to minimizing a threat to the public health and welfare; and
- d. Activities required to repair unavoidable damage resulting from removal actions have been performed.