COOK INLET SUBAREA CONTINGENCY PLAN

RESPONSE SECTION

RESPONSE: PART ONE – EMERGENCY RESPONSE NOTIFICATION

A. EMERGENCY RESPONSE NOTIFICATION

In the case of a *reportable* oil or hazardous substance spill (as defined in State and federal regulations), the Responsible Party (RP) or initial responder to the spill incident will immediately notify the following agencies. Once these initial notifications have been made, the Federal On-Scene Coordinator (FOSC), State On-Scene Coordinator (SOSC) and Local On-Scene Coordinator (LOSC) respectively, will be responsible for the notification of appropriate federal, state, and local agencies and organizations according to the contact lists contained on the following pages.

The area code for all phone and fax numbers is ***907***, unless otherwise indicated.

Initial Emergency Contact Checklist

Federal	
National Response Center (24 hr)	1-800-424-8802
FOSC for Coastal Zone – USCG – Sector Anchorage	428-4100 or 1-866-396-1361
FOSC for Inland Zone – EPA, Region X Alaska Operation – Anchorage Office	271-5083/271-3424 (fax)
EPA FOSC Carr (cell)	227-9936
EPA FOSC Whittier (cell)	830-7236
EPA Seattle Office (24 hr)	206-553-1263
State	
SOSC – ADEC, Central Alaska Response Team (business hours)	269-3063/269-7648 (fax)
After Hours Spill Number	1-800-478-9300

B. FEDERAL AGENCY CONTACTS

It is the responsibility of the FOSC to initiate contact, as appropriate, with the following agencies, organizations, and entities once emergency notifications have been made. This is not an exhaustive list of federal contacts, and the FOSC may notify additional parties. Phone numbers are not listed in order of importance, and contacts will be made at the discretion of the FOSC. Initial notifications will be made by telephone, with concurrent transmission of any available documents (e.g., POLREPs or other information) by fax or e-mail whenever possible. Additional federal agency contacts are listed in the *Resources Section* of this plan.

Agency	Phone	Alt. Phone	Fax
National Response Center	800-424-8802	202-267-2675	202-267-2165 / 202-372-8411
National Pollution Funds Center	703-872-6000		703-872-6900
USCG District 17 Command Center	463-2000		463-2023
USCG – Sector Anchorage	428-4100		428-4114
USCG District 17 Public Affairs	463-2065		463-2072
USCG Pacific Strike Team	415-883-3311	415-559-9908	415-883-7814
National Strike Force	252-331-6000		252-331-6012
Environmental Protection Agency – Anchorage	271-5083		271-3424
Seattle (24 hr)	206-553-1263		
U.S. Department of the Interior	271-5011	227-3783	271-5930
National Oceanic & Atmospheric Admin. SSC	428-4143		271-3139
U.S. Forest Service	586-7876	586-8806	586-7892
U.S. Army Corps of Engineers (Security Office)	753-2515	753-2612	753-2513
U.S. Navy SUPSALV	384-2968	384-7613	384-2969
Federal Aviation Administration (Ops Center)	271-5936 / 425-227-1999	425-227-2000	425-227-1006
National Marine Fisheries	271-5006		271-3030
National Weather Service	800-424-8802	202-267-2675	202-267-2165 / 202-372-8411

Threatened and Endangered Species Consultation Contacts

Agency	Phone (business hour)	Emergency (24-hr) Contact	Fax
Department of Interior	271-5011	227-3783 / 227-3781	271-4102 / 271-5930
Department of Commerce/NOAA	586-7235 / 271-5006	586-7638 / 360-3481	586-7012 / 271-3030

Native Organizations and Federally-Recognized Tribes: See the *Resources Section, Part Three, Subsection N* for a complete listing and contact information.

C. ALASKA STATE AGENCY CONTACTS

It is the responsibility of the SOSC to initiate contact, as appropriate, with the following agencies and organizations once emergency notifications have been made. This is not an exhaustive list of State contacts, and the SOSC may notify additional parties. Phone numbers are not listed in order of importance and contacts will be made at the discretion of the SOSC. Initial notifications will be made by telephone, with concurrent transmission of any available documents (e.g., a sitrep or other information) by fax or e-mail whenever possible. Additional state agency contacts are listed in the Resources Section of this plan and in the *Unified Plan, Annex E*.

Agencies	Phone	Alt. Phone	Fax
ALASKA STATE AGENCIES			
Department of Environmental Conservation, Anchorage	269-3063		269-7648
After Hour Spill Number	1-800-478-9300		
Department of Fish and Game	267-2805		267-2461
Department of Military & Veteran Affairs	428-7000	907-428-7100	428-7009
Division of Emergency Services (24 hr)	1-800-478-2337		
Department of Labor, Occupational Safety & Health	1-800-770-4940	269-4940 / 269-4955	269-4950
Department of Law	269-5100	269-5274	276-3697
Department of Natural Resources	269-8548	269-8503	269-8913
Division of Oil and Gas	269-8800	269-8815	269-8938
Division of Mining Land and Water, Southcentral Region	269-8548	269-8503	269-8913
State Historic Preservation Officer, Office of History and Archaeology	269-8548	269-8723/8728	269-8901
Department of Public Safety – Dispatch	428-7200		428-7204
Department of Transportation & Public Facilities	269-0770		248-1573
Department of Health and Social Services	903-3721		269-0036
University of Alaska – Department of Homeland Security and Emergency Management	474-7461		
INDUSTRY ORGANIZAITONS			
Alaska Chadux Corporation	348-2365	(888) 831-3438	348-2330
Cook Inlet Spill Prevention & Response, Inc. (CISPRI)	776-5129		776-2190

D. LOCAL CONTACTS

It is the responsibility of the LOSC to initiate contact with the following local government agencies and organizations once emergency notifications have been made. Local plans may designate who will serve as the LOSC, who has responsibility for making any necessary contacts, and who should be contacted. Each town, village or community may have their own emergency response plan, and all applicable local plans should be consulted during an emergency situation.

This list of local contacts is not exhaustive, and the LOSC may notify additional parties as well as those listed below. Phone numbers are not listed in order of importance and contacts should be made at the discretion of the LOSC. Initial notifications will be made by telephone, with concurrent transmission of any available documents (e.g. Sitrep or other information) by fax or e-mail whenever possible.

(The* Resources Section, Part One *contains additional information and contacts for specific locales.)

Local Emergency Planning Committees

Committee	Phone	Fax	Email
Municipality of Anchorage LEPC	343-1400	249-7808	wwoem@muni.org
Kenai Peninsula LEPC	262-4910	714-2395	
Matanuska / Susitna Borough LEPC	861-8005	376-0799	

Boroughs

Borough	Organization	Phone
Municipality of Anchorage Borough	Municipality Office	343-4311
	Emergency Management	343-1400
Kenai Peninsula Borough	Borough Office	262-4441
	Emergency Management	262-4910
Matanuska / Susitna Borough	Borough Office	861-7801
	Emergency Operations	861-8004

Communities

City/Village	Organization	Phone
Alexander Creek	Village Corporation	243-5323
Anchorage Municipality	Municipality Office	343-4311
	Emergency Management	343-1400
	State Troopers Anchorage Post	269-5511
	State Troopers Girdwood Post	783-0972
	Police	786-8500
	Fire Anchorage City Limits	267-4900
	Fire Girdwood	783-2511
	Fire Eagle River	694-2675
	Fire Elmendorf AFB	552-4644
	Fire Fort Richardson	384-0774
	Fire Chugiak	688-2686
	Fire Anchorage Airport	266-2411
	Fire Hiland Road (South Fork Eagle River)	696-8414
	Alaska Native Medical Center/Hospital	729-1729
	Alaska Regional Hospital	276-1131
	Providence Hospital	562-2211
	U.S. Air Force, Elmendorf Hospital	552-2748
	Port Director	343-6200
Anchor Point	Volunteer Fire and Rescue	235-6700
	Clinic	235-5284
Big Lake	Ambulance (Palmer)	373-8800
	State Troopers (Mat-Su West)	373-8300
	Fire Department	892-7750
Butte	Ambulance (Palmer)	373-8800
	State Troopers (Palmer)	745-2131
Chase	Use Talkeetna listings	
Chickaloon	Tribal Council	745-0707
	Public Safety Officer	745-0743
	Environmental Dept.	745-0737
Clam Gulch	Emergency (Kenai)	262-4792
Cohoe	Emergency (Kenai)	262-4792
Cooper Landing	Fire Department (Soldotna dispatch)	262-4453
	State Troopers	595-1233
	Ambulance/ Rescue	595-1800
Crown Point	Use Seward listings	
Eklutna	Use Anchorage listings	

Communities

City/Village	Organization	Phone
	Tribal Council	688-6020
Fox River	Use Homer listings	
Fritz Creek	Use Homer listings	
Funny River	Use Soldotna listings	
Girdwood	Fire/EMS	783-2511
	State Troopers	783-0972
Halibut Cove	Use Homer listings	
Happy Valley	Use Homer listings	
Homer (City)	General Information	235-8121
	State Troopers	235-8239
	Police Department	235-3150
	Fire Department	235-3155
	Hospital	235-8101
	Clinic	235-8857
	Harbormaster	235-3160
Hope	Use Anchorage or Soldotna listings	
Houston	Ambulance	373-8800
	Volunteer Fire Department	892-6457
	State Troopers (Mat-Su West)	373-8300
Jakolof Bay	Use Seldovia listings	
Kachemak (City)	General Information	235-8897
	Emergency	235-1511
	Fire (Homer)	235-3155
Kalifornsky	Emergency (Kenai)	262-4792
Kasilof	Emergency (Kenai)	262-4792
Kenai (City)	General Information	283-7535
	Tribal Council Salamatoff	283-7864
	Tribal Council Kenaitze	283-3633
	Police Department	283-7879
	Fire Department	283-7666
	State Troopers	283-8590
	Health Clinic	714-4536
	City Dock (summer only)	283-7535
Knik	Tribal Council	373-7991
	Police (Wasilla)	373-9077
	Fire Department	373-8800
	Health Clinic (Wasilla)	373-6055
Lazy Mountain	(use Palmer listings)	
Meadow Lakes	(use Wasilla listings)	
Moose Pass	Volunteer Fire/EMS	288-3666
	Clinic (use Seward or Soldotna listings)	
Nanwalek	Tribal Council	281-2274
	Health Clinic	281-2250
Nikiski	Fire Department	776-8400
Nikolaevsk	Use Anchor Point listings	
Ninilchik	Tribal Council	567-3313
	State Troopers	567-3388
	Fire Department	567-3929
	Health Clinic	567-3970
	Ambulance	567-3342
Palmer	General Information	745-3271
	Police Department	745-4811
	State Troopers (Palmer)	745-2131
	Fire Department	745-3854
	Hospital	861-6000
	Ambulance	373-8800
Port Graham	Tribal Council	284-2227

Communities

City/Village	Organization	Phone
	VPSO	284-2207
	Fire Department	284-2265
	Health Clinic	284-2241
	EMS/Ambulance	284-2245
Primrose	Bean Creek Volunteer Fire/EMS	224-3345
	Seward Volunteer Ambulance	224-3338
Ridgeway	Emergency	262-4792
Salamatof	Emergency	262-4792
Seldovia	General Information	234-7643
	Tribal Council	234-7898
	Police Department	234-7640
	Fire Department	234-7812
	Health Clinic	234-7825
	Harbormaster (part-time in winter)	202-3393
Seward	General Information	224-3331
	Tribal Council	224-3118
	State Troopers	224-3346
	Police Department	224-3338
	Fire Department	224-3345
	Ambulance	224-3987
	Hospital	224-5205
	Harbormaster	224-3138
Skwentna	Fire/Rescue	373-8800
		262-9107
Soldotna	State Troopers	262-4453
	Police Department	262-4334
	Fire Department	262-4792
	Hospital	262-4404
	Central Emergency Services (CES)	262-4792
Sterling	Emergency (CES)	262-4792
Sutton	Fire Department	373-8800
Talkeetna	State Troopers	733-2256
	Ambulance	373-8800
	Health Center	733-2273
Tyonek	Tribal Council	583-2201
	Fire/Hospital	583-2201
	Clinic	583-2461
	Volunteer Rescue	583-2135
Wasilla	General Informaiton	373-9050
	Police Department	352-5401
	Fire Department	373-8800
	Ambulance	373-8800
	Hospital	352-2800
Whittier	General Information	472-2327
	Police Department	472-2340
	Fire Department	472-2560
	Health Clinic	472-2303
	Harbormaster	472-2375
	Harbormaster - Alyeska/SERVS	472-2473
Willow	Fire Department	495-6728
	Ambulance	373-8800

E. OTHER POINTS OF CONTACT

Alaska Regional Response Team (ARRT)

Organization	Phone	Alt. Phone	Fax
U.S. Coast Guard, District 17	463-2226	463-2000	463-2216
Environmental Protection Agency, Region 10	271-3247	553-1263	553-0175
Alaska Department of Environmental Conservation	269-7604	262-5210	269-7687
Alaska Department of Defense, Alaskan Command	522-2815	552-3013	522-8136
General Services Administration	271-5028		271-3086
Department of the Interior	271-5011	227-3783	271-4102
Department of Commerce – NOAA	271-6540	271-3886	526-6329
Department of Homeland Security – FEMA	271-4301	271-4303	
Department of Health & Human Services	271-4073		271-4073
Department of Justice	271-5071		271-5827
Department of Agriculture – US Forest Service	586-8866	586-8882	586-7555
Department of Labor – OSHA	271-5152	271-3593	
Department of Energy	271-1550	376-8519	376-1272
Department of Transportation - FAA	271-5230	271-5149	271-5230

Federal and State Natural Resource Trustees Contacts: A complete listing of the Natural Resource Trustees contact information, including e-mail, is available through a link at the ARRT website: www.alaskarrt.org/, under "Members and Contacts." A listing of agency trustees appears in the *Resources Section, Part Three, Subsection T*.

Historic Properties Advisors

Agency	Phone
State Historic Preservation Office (ADNR)	269-8721
FOSC Historic Properties Specialists	Contact the FOSC for appropriate BOA contractor
Regional Environmental Officer (USDOI)	271-5011

Regional Citizens Advisory Councils

Agency	Phone
Cook Inlet Regional Citizens Advisory Council	283-7222
Prince William Sound Regional Citizens Advisory Council	Valdez: 834-5000 Anchorage: 277-7222

Hatcheries/Aquaculture Sites: Refer to the *Sensitive Areas Section* of this plan

Industry/Spill Response Organizations

Organization	Phone	Alt. Phone	Fax
Cook Inlet Spill Response Inc. (CISPRI)	776-5129		776-2190
Alaska Clean Seas	659-3207	659-3249	
Alyeska Pipeline Services Company **For Pipeline Emergency: 835-4709**	278-1611	787-8777 *(24 Hrs)*	
Inland Petroservice, Inc. (Fairbanks)	451-1905		451-1906
Emerald Alaska, Inc.	888-506-7220		
Chadux	348-2365		

CHEMTREC: 1-800-424-9300 (24 hr) Hazardous substances information provided by the Chemical Manufacturers Association

RESPONSE: PART TWO- EMERGENCY RESPONSE

A. UNIFIED COMMAND STRUCTURE AND ICS

The oil and hazardous substance discharge response Incident Command System (ICS) as described in *Annex B of the Unified Plan* will be used during a spill response in the Cook Inlet Subarea. In the event of an actual or potential oil or hazardous materials release, an Incident Command System response will be activated. The ICS is based on the National Incident Management System (NIMS), which was developed to coordinate agency action and provide a command structure for use during emergency response events. In the State of Alaska, the Unified Command application of the Incident Command System is used for response to oil and hazardous material spills. This system of ICS differs somewhat from the standard NIMS ICS format.

The Incident Command System allows for federal, state, and local governments to participate in the spill response both in an oversight capacity and as participants in the containment, control, and cleanup of the spill. The ICS is organized around five major functions: Command, Planning, Operations, Logistics and Finance/Administration. The basic ICS structure remains the same in all incidents, but the magnitude and complexity of the spill emergency will dictate which functional areas will be activated and to what level. The ICS can be expanded or contracted to suit the size and scale of the spill.

The Incident Command System is led by a **Unified Command**, which directs all aspects of incident response (including oversight, monitoring, cleanup, etc.), and includes an **Incident Commander (IC)**, who is in command of the control, containment, removal, and disposal of the spill. For the Cook Inlet Subarea, the Unified Command is typically comprised of the Federal On-Scene Coordinator (FOSC), the State On-Scene Coordinator (SOSC), the Local On-Scene Coordinator (LOSC), and the Responsible Party On-Scene Coordinator (RPOSC). The Unified Command is implemented in situations where more than one agency has jurisdiction. When the Responsible Party (RP) is identified, the RPOSC is usually a senior representative of the RP and is designated the Incident Commander (IC). When there is no RP, or the RP is unable to satisfactorily respond to a spill, the spill response will be directed by an Incident Commander designated by the agency with jurisdictional authority (federal, state, or local.)

Below the command level, positions within the ICS can be filled by employees of the RP (recommended) or its independent contractors. The exact size and composition of an ICS will vary according to the needs of the response and the experience level of the personnel involved. Government agency personnel may supplement ICS staffing as necessary.

By integrating response management early in the response, consensus and mobilization can be more quickly achieved and limited resources combined to reduce duplication of effort and enhance response effectiveness.

> ***Note:*** *Neither the AIMS Guide, the Coast Guard IMH, nor the EPA IMH are specifically prescribed by this plan and are not mandated for use by response plan holders or other potential responsible parties. The methodology and procedures in these documents are very similar to the National Incident Management System. The Federal and State On-Scene Coordinators will work with the response organization established by the responsible party in responding and managing an oil or hazardous substance release incident.*

B. ROLES OF THE OSCS, RP, RAC/OSRO AND RSC

Federal On-Scene Coordinator (FOSC): The U.S. Coast Guard is the lead agency for coastal oil and hazardous materials spill responses and shall serve as the Federal On-Scene Coordinator in the Unified Command. The Environmental Protection Agency (EPA) will be the lead agency and FOSC For oil spills on inland waters (more than 1000 yards inland from the tideline). The role of the U.S. Coast Guard or EPA in the Unified Command will vary according to spill type and size. The Coast Guard has adopted the Incident

Management Handbook (COMDTPUB P3120.17) for use in guiding their major spill response efforts. The guide provides detailed guidance for each Incident Command System position identified for emergency response operations.

State On-Scene Coordinator (SOSC): The Alaska Department of Environmental Conservation (ADEC) is the lead agency for the State of Alaska in oil and hazardous materials spill response. ADEC serves as the State On-Scene Coordinator (SOSC) in the Unified Command. The Statewide Oil and Hazardous Substance Incident Management System Workgroup (consisting of ADEC, industry, spill cooperatives, and federal agencies) has published the Alaska Incident Management System (AIMS) for Oil & Hazardous Substance Response. The AIMS Guide provides ADEC personnel and other response personnel with the detailed guidance necessary to properly respond to a major spill incident.

Local On-Scene Coordinator (LOSC): In the event of an oil spill or hazardous substance release in the Cook Inlet Subarea, a senior member of the local community with jurisdiction, unless otherwise specified by local plans, will serve as the LOSC in the Unified Command. For all spills in the Cook Inlet Subarea in which the ICS is implemented, the LOSC will sit in the Unified Command with the FOSC, SOSC, and RPOSC, sharing decision-making and oversight responsibilities with the other On-Scene Coordinators. For spills that affect or threaten to affect multiple jurisdictions in the Cook Inlet Subarea, or outside of the subarea, appropriate officials from the affected communities will integrate into the command structure either through a LOSC liaison representing the affected communities or through a Regional Stakeholder Committee.

As long as there is an immediate threat to public safety exists, the LOSC will serve as the ultimate command authority if the FOSC or SOSC does not assume the lead role for the response, or the LOSC requests a higher authority to assume that responsibility. (See the *Unified Plan, Annex B*.)

Responsible Party (RP): Responsible Party (RP): Under federal and state law, the RP is responsible to contain, control, and clean up any oil or hazardous substance spilled. The RP must notify the federal, state, and local authorities of the spill incident and initiate an effective response. The RP is expected to respond to an incident using their own resources and securing additional contractual expertise and equipment when necessary. The FOSC and SOSC have the authority to oversee the RP's activities, and both are authorized to take over or supplement the RP's response activities if they determine those activities to be inadequate. During an RP-driven response, if the vessel or facility has a contingency plan under state law(C-plan) or a Vessel Response Plan (VRP) or Facility Response Plan (FRP) under the national planning criteria, it will serve as the primary guidance document for the spill response, and the Responsible Party will designate the Incident Commander. (In remote areas where typical response resources are not available, or the available commercial resources do not meet the national planning criteria, the owner or operator of a vessel required to have a VRP may request the Coast Guard accept Alternate Planning Criteria, established under Title 33 CFR Part 155.) If there is no Responsible Party, or if the RP does not have a government-approved contingency plan, the Unified Plan and the Cook Inlet Subarea Contingency Plan will become the guiding document during the spill response.

Primary Response Actions Contractors (PRAC) and Oil Spill Response Organizations (OSRO): Primary Response Action Contractors and Oil Spill Response Organizations (OSRO) may play an important role in a spill response. PRACs and OSROs are organizations that may enter a contractual agreement with an RP (vessel or facility owner/operator), assisting the RP in spill cleanup operations. PRACs/OSROs can provide equipment, trained personnel and additional resources. The Operations/Technical Manuals maintained by the PRACs/OSROs may be referenced in vessel or facility contingency plans and serve as supplementary reference documents during a response. OSROs generally have access to large inventories of spill equipment and personnel resources. The FOSC or SOSC may contract these assets for use. Select

equipment located within the Cook Inlet Subarea is referenced in the Resources Section of this Plan. Complete equipment inventories are listed in the respective Operations/Technical Manuals of the PRACs and OSROs.

Under State of Alaska statute, a nontank vessel is a self-propelled watercraft of more than 400 gross registered tons. Examples include: commercial fishing vessels, commercial fish processing vessels, passenger vessels and cargo vessels, but does not include a tank vessel, oil barge or public vessel. Owners of regulated nontank vessels are required to submit to ADEC an oil discharge prevention and contingency plan covering all applicable nontank vessels. A nontank vessel PRAC is an organization registered with the State of Alaska that is obligated under a contractual relationship with a contingency plan holder to provide personnel and/or equipment to contain, control, or clean up oil spills for the plan holder; a PRAC may be under contract to multiple plan holders. A nontank vessel cleanup contractor means an oil spill PRAC who is, or intends to be, obligated under contract or membership agreement to provide resources or equipment to contain, control, and perform cleanup of an oil discharge under an approved nontank vessel plan. A nontank vessel incident management team means an oil spill PRAC who is, or intends to be, obligated under contract to provide incident management services under an approved nontank vessel plan. A response planning facilitator is an oil spill PRAC who provides services to the holder of an approved nontank vessel plan and act as an intermediary between the plan holder and one or more nontank vessel cleanup contractors and one or more nontank vessel incident management teams in order to facilitate the submission of a nontank vessel streamlined plan.

Cook Inlet Regional Citizens' Advisory Councils (CIRCAC): There are two Regional Citizens Advisory Councils (RCACs) in Alaska, Cook Inlet RCAC and Prince William Sound RCAC. RCACs are independent, non-profit organizations created by the Oil Pollution Act of 1990 to monitor and advise on oil industry programs related to spill prevention and response, tanker safety and environmental impact assessments. During a spill response, RCACs monitor on- water activities and observe and verify spill response and cleanup efforts. RCACs inform local community members and other concerned groups about response activities and provide information on local concerns and priorities to the Unified Command in order to facilitate operational decisions. The normal contribution of the CIRCAC is to provide local knowledge and technical expertise within the ICS structure (e.g., as part of the Operations, Planning Sections, and the Joint Information Center).

Regional Stakeholder Committee (RSC): A Regional Stakeholder Committee will be activated for significant incidents to advise the Unified Command and provide recommendations or comments on incident priorities, objectives and community concerns. RSCs do not play a direct role in setting incident priorities or allocating resources, however the RSC can advise the Unified Command (usually through the Liaison Officer) and provide recommendations or comments on incident priorities, objectives, and the incident action plan. The RSC is not directly involved in tactical operations, though some of its members may be. Each RSC will be facilitated by a chairperson elected by the RSC members. RSC composition may vary from incident-to-incident and may include community emergency coordinators, local or tribal government representatives, local or private landowners and leaseholders, Native organizations, non-profit and volunteer organizations, and other stakeholder groups affected by the spill. For spills affecting the Cook Inlet Subarea, RSC Chair may initially be filled by Liaison Officer or designated CIRCAC member until the assembled RSC elects a Chair". Reference Annex B section F (Regional Stakeholder Committee) of Unified Plan.

RESPONSE: PART THREE – RESPONSE PROCEDURES

This part identifies the initial response objectives and actions that shall be taken for an oil or hazardous substance spill in the Cook Inlet Subarea, including the "ramp up" procedures and processes necessary to address an emerging incident.

NOTE: ***"General Emergency Response Procedures,"*** *which are applicable throughout the State, are contained in the Introductory Section of the* ***Unified Plan****.*

A. RESPONSE OBJECTIVES

Regardless of the nature or location of a spill, the following objectives shall guide all response actions:

1. Ensure safety of responders and the public.
2. Stop the source of the spill.
3. Deploy equipment to contain and recover the spilled product.
4. Protect sensitive areas (environmental, historic properties, and human use).
5. Track the extent of the spill and identify affected areas.
6. Cleanup contaminated areas and properly dispose of wastes.
7. Notify and update the public. Provide avenues for community involvement where appropriate.

B. SCOPE OF ACTIVITIES

This list assists the Incident Commander, either government or RP, and staff in completing the initial response actions associated with a medium to large-sized oil spill and hazardous material spill. This list is not exhaustive and should be used at the discretion of the IC and the Unified Command.

1. Define Nature of Incident
    a. Determine facts of spill.
        - Responsible Party (name and phone #)
        - Location and time of incident
        - Type of incident (explosion, grounding, operational, etc.)
        - Type of product
        - Movement of spilled product
        - Environmental resources, sensitive areas, and historic properties at risk
    b. Determine whether RP is willing/able to respond and the extent of the RP's response actions.
    c. Classify size of spill.
    d. Notify natural resource trustees
    e. The FOSC (or authorized representative) needs to perform the following:
        i. Consult with natural resource trustees on potential resources at risk, including (but not limited to) wildlife on rat-free islands;
        ii. Conduct Endangered Species Act consultation (contact DOI and DOC to determine the presence of, and potential impacts to, threatened and endangered species and their critical habitat); and
        iii. Determine whether incident is categorically excluded under the Programmatic Agreement to protect historic properties and, if not, activate an FOSC Historic Properties

Specialist.

2. Evaluate Hazards to Human Health/Safety
   a. Determine threat to public health.
   b. Assess fire/explosion hazard.
   c. Assess personnel safety based on potential/existing hazards.
   d. Determine appropriate level of personnel protective equipment for responders.
3. Evaluate Severity of Incident to Indentify Resource Requirements
   a. Estimate amount of spilled product and total potential amount.
   b. Estimate duration of spill response efforts.
   c. Assess weather/sea conditions.
   d. Determine the presence (or suspected presence) of invasive species (e.g., rats).
4. Initiate Response Strategy
   a. Protect responders and the public.
   b. Secure or isolate the source of spill.
   c. Initiate spill tracking.

   d. Protect sensitive areas:
      i. Consult with natural resource trustees on the protection of sensitive areas (including rat-free islands) and resources and on potential response options to be taken;
      ii. Develop priorities consistent with environmental sensitivity and protection priorities identified in *Sensitive Areas Section* of this plan.
   e. Initiate containment and recovery of spilled product.
   f. If ballast water discharge is considered as an option for vessel stability or other concerns, the threat of invasive species needs to be addressed by responders.
5. Inform Local Residents, Communities, & Stakeholders
   a. Prepare Press Statement.
      - Report the extent that USCG, EPA, ADEC, RP and local emergency response personnel are responding to discharge event.
      - Give brief details of the discharge.
      - Describe actions taken by the UC.
      - Announce that scheduled press releases will be prepared and presented as response activities progress.
   b. Contact Local Media. (radio, newspaper and television contact information available in the *Resources Section, Part Three*, *Subsection M*)
   c. Be forthcoming, and provide as much information as quickly as possible. If no information is available, say so and reference the next scheduled press release.
   d. Conduct appropriate briefings via the ICS Liaison Officer.

C. RAMP UP PROCEDURES

A spill response progresses through a series of steps where the number of personnel and amount of equipment is increased (or decreased) as necessary to meet the demands of the situation. This increase of

resources to address response needs is called a "ramp up." The USCG or EPA will rely on their Incident Management Handbook and State of Alaska personnel will employ the AIMS Guide to direct their staffing of emergency response teams.

The ramp up begins when the spill is first reported and then progresses with the sequential and prioritized activation of the response resources of the Responsible Party and the local, state and federal responders. Each spill response will differ according to spill size and severity, location, season, and a variety of other factors. Personnel needs will vary accordingly.

The ramp up procedures and personnel requirements presented below are provided as guidance for the Unified Command during the initial staffing of the Incident Command System (ICS). The ICS can expand and contract to meet the needs of an emergency response without any loss of effectiveness or control. The goal for any major spill is to have the personnel in place to staff a complete ICS within the first 96 hours of a response. In addition to federal and state responders, several Cook Inlet municipalities have significant numbers of trained personnel available to help staff an ICS. Contact the local emergency management organizations listed in Part One of this Section to recruit local, trained personnel to assist in the response effort.

The ramp up to a full oil spill response generally moves through three staffing levels. The **Initial Response Team** (Hours 0-6) will consist primarily of first responders who will carry out initial response actions. The **Transitional Response Team** (Hours 6-96) will form as additional personnel arrive on-scene and ICS functions are added. The **Full Response Team** (by Hour 96) will be complete when full ICS staffing levels have been reached. Qualified personnel within the ICS will identify resources and equipment necessary for an effective response.

In those incidents where there is imminent threat to life and property, the appropriate local Fire Chief, State Trooper, or Emergency Manager will be the Incident Commander.

This ramp up guidance outlines the response of the federal, state and local personnel. Responsible Party personnel will also initiate a concurrent ramp up according to the procedures described in their contingency plan.

Hour 0-6: Initial Response Team

The Initial Response Team will consist primarily of the FOSC and SOSC response officers, natural resource trustees (if available), local emergency response and Responsible Party personnel. The Initial Response Team will carry out initial response efforts, which include notification and equipment mobilization. Depending on the size and potential impact of the spill, a Unified Command may begin to form as the Initial Response Team carries out these response actions.

Notifications: A Prudent Responsible Party will take initiative for making notifications to Federal, State, and Local agencies. Notifications can include local officials, police, and fire departments. The FOSC and their agency personnel will notify the appropriate federal agencies listed as agency contacts on page A-2 and other points of contact, as necessary. The FOSC will notify appropriate natural resource trustees to begin the consultation process on resources at risk (including threatened and endangered species and their critical habitats), response actions that may affect trust resources, and response actions to protect or reduce the injury of trust resources. ADEC will notify the appropriate State agencies as noted on the contact list on page A-2. The LOSC will notify the appropriate local agencies as noted on the contact list on page A-3. Each agency will activate appropriate staff and equipment to respond to the Cook Inlet Subarea.

Initial Response Action: Following these notifications, the initial responders will assess the chemical characteristics of the spilled material and establish a safe level of Personnel Protective Equipment (PPE)

prior to dispatching a response team to the scene. Upon arrival, the response team will conduct a site characterization to evaluate environmental hazards. Upon ensuring a safe operating environment, they will attempt to determine the source of the spill, identify the responsible party, secure the source of discharge, and begin to gather data for formulating a response strategy or validating the RP's strategies. This initial response team will normally have no containment or product removal means with them at this time, unless provided by the RP. If local authorities or federal/state responders identify an immediate threat to public health and safety, appropriate action shall be initiated. If the situation warrants, an evacuation may be implemented according to the procedures described in the local emergency response plan.

The response team will contact the FOSC and/or SOSC, report the details of the spill, and may initiate a preliminary investigation into the cause of the spill. The FOSC/SOSC will advise the RP of legal responsibilities regarding the spill and any investigation that my follow. The FOSC will be advised of the severity of the spill and will activate the ICS. The FOSC and/or SOSC will brief the federal, state and local government agencies regarding the spill status and ramp up procedures. The FOSC will continue to consult with natural resource trustees on actions to be taken that may affect trust resources. The FOSC will activate an FOSC Historic Properties Specialist unless the FOSC determines that the incident is categorically excluded from the National Programmatic Agreement to protect historic properties.

ADEC will select any available State resource agency personnel to serve as a local contact until ADEC responders arrive on-scene. ADEC will request that ADNR and ADFG identify environmental priorities for protection. ADNR and ADFG will use the environmental sensitivities information in this plan as a primary source for this information. NOAA may also be contacted for initial environmental sensitivity and wildlife concentration information. The Cook Inlet Response Tool (CIRT) may also be used as a tool to identify environmental priorities for protection (http://portal.aoos.org/cirt.php). ADEC will forward these priorities to the Incident Commander and the Unified Command.

The Responsible Party is responsible for deploying appropriate privately-owned pollution response equipment as quickly as possible, regardless of whether federal/state equipment has been deployed in the interim. The FOSC/SOSC may assist the RP and arrange for initial delivery of pollution response gear via the most expedient mode of transportation.

Command Center Establishment: A field command post will be assembled to coordinate efforts until the FOSC, SOSC, LOSC and RP can establish the command center. The location of this field command post will depend upon the location and severity of spill, time of year, weather, and other considerations. Details on potential field command post locations, staging areas and potential command center locations throughout the Cook Inlet are included in the Resources Section of this plan.

State, federal, and local personnel arriving on-scene should realize that workspace, telephone lines, and other office resources may be limited during the initial response. Individuals are encouraged to bring cellular phones to communicate with their respective home offices (realizing that cellular phone capabilities may be severely limited or non-existent at the incident location).

Staging Areas: In Part Four of the Resources Section of this plan, potential staging areas have been identified and profiled for each of the communities and remote facilities in the Cook Inlet Subarea.

Hour 6-96: Transitional Response Team

The Transitional Response Team forms as additional federal, state and local response personnel arrive on-scene. After the initial response, the scope and size of the spill can be gauged, and the Unified Command will come together and ICS staffing will increase. In a government-led spill, the Unified Command will designate an Incident Commander. In a Responsible Party-led response, the Incident Commander will be a representative of the RP. The IC will designate appropriately trained personnel as Section Chiefs for the

Operations, Planning, Logistics, and Finance/Administration Sections. As the response develops, appropriate ICS functions will be added until a full response team is in place.

Hour 96: Full Response Team

A full ICS response team should be assembled by Hour 96 of the spill response. Staffing-depths and positions-filled will vary with the response, as will the order in which these positions are filled. The Full Response Team will follow the command structure described in the Alaska Incident Management System (AIMS) Guide. Response personnel may include federal, state and local agency personnel, employees of the Responsible Party, independent contractors, and other organizations as appropriate.

D. ADDITIONAL RESPONSE PROTOCOLS

1. Health and Safety

For most spills, a Safety Officer should be one of the first positions designated by the Incident Commander. The Safety Officer will be responsible for ensuring that the spill site is properly characterized, the hazards identified, and personnel properly equipped and adequately briefed prior to allowing entry into the spill area. The Safety Officer will also be responsible for ensuring site security and establishing emergency procedures for decontamination and evacuation in the event of injury or change in conditions. The Safety Officer answers directly to the Incident Commander and will have the authority to suspend any operation deemed unsafe or in violation of safety regulations.

Annex H, Appendix I of the Unified Plan provides a Standard Site Safety Plan for Emergency / Post-Emergency Phase Coastal Oil Spills developed by the US Coast Guard. The plan is generic in nature and must be expanded to provide specific safety procedures for each incident.

Annex H, Appendix II of the Unified Plan provides the Training Guidelines for Local Emergency Planning Committees for Planners/Responders/Managers of Responses to Hazardous Materials Emergencies.

Once the emergency response is under way, the Safety Officer will develop a Site Specific Health and Safety Plan that will address all the required elements in OSHA's Hazardous Waste Operations and Emergency Response Regulations (29 CFR 1910.120), including but not limited to:

- Risk and hazard analysis for each planned site task and operation
- Training Requirements
- Personnel Protective Equipment (PPE)
- Medical Surveillance
- Air Monitoring
- Site Control
- Decontamination
- Emergency Response Plan
- Confined space entry procedures
- Spill containment program

2. In Situ Burning, Dispersants and Other Chemical Countermeasures

Decisions regarding the use of *in situ* burning and/or dispersants or any other chemical response tactic in the Cook Inlet Subarea will be made according to the guidelines presented in *Annex F of the Unified*

Plan.

Federal On-Scene Coordinators (FOSCs) in Alaska may authorize the use of dispersants during incident response in areas where dispersant use and *in situ* burning are not pre-approved. This authorization requires concurrence of the EPA and the ADEC Alaska RRT representatives and consultation, when practicable, with the DOC and the DOI Alaska RRT representatives. In addition, any dispersants used must be listed on the NCP Product Schedule. The OSC may authorize the use of any dispersant, surface washing agent, surface collecting agent, other chemical agent, burning agent, bioremediation agent, or miscellaneous oil spill control agent, including products not listed on the NCP Product Schedule, without obtaining the concurrence of the EPA representative to the RRT and, as appropriate, the RRT representatives from the states with jurisdiction over the navigable waters threatened by the release or discharge, when, in the judgment of the OSC, the use of the product is necessary to prevent or substantially reduce a hazard to human life. ***Always consult*** the appropriate guidelines for dispersants and *in situ* burning before proceeding.

Dispersant guidelines for Cook Inlet delineate areas where dispersants have been pre-approved by appropriate entities and contain checklists used by FOSCs in making decisions to use dispersants during incident response. *In situ* burning guidelines developed for Alaska include the parameters for pre-approval of *in situ* burning in the marine environment and contain a checklist used by FOSCs in making decisions to use *in situ* burning during incident response.

According to the guidelines and from an operational perspective, both of these non-mechanical response options are usually considered at an early stage in a spill response operation; however, non-mechanical response option should be considered only when mechanical recovery is impractical or not possible. Both of mon-mechanical tactics, dispersants and *in situ* burning, are most effective when applied to oil that has not been heavily emulsified. Therefore, the operational window for considering these tactics is somewhat restricted by time. If either or both of these options are to be considered, the Unified Command should direct an early and immediate assessment of the feasibility for employing these non-mechanical options and make a timely decision to approve/disapprove the use of these tactics.

While there are no legal obligations for the FOSC and SOSC to include local officials from the Cook Inlet region in the decision-making process regarding local use of dispersants and/or *in situ* burning, this is an issue of primary concern to local residents. To the extent practicable and through the LOSC, the appropriate village, municipality or borough(s) should be involved in the decision-making process.

3. Waste Removal and Disposal

The Planning Section Chief will be responsible for developing a waste removal and disposal plan that provides the necessary logistical and procedural information to ensure a fast and efficient transfer of wastes to disposal facilities. The disposal plan must be in compliance with existing laws and regulations.

Oversight of the waste disposal plan will normally be the responsibility of the State of Alaska. Alaska law (18 AAC 75.319 & 18 AAC 75.327) requires that cleanup and waste disposal plans for hazardous substances, including oil, be approved by ADEC. For information and guidelines on procedures for transporting, storage, and disposal of wastes and a listing of disposal related permits, refer to the *Unified Plan, Annex E, Appendix VI.*

Note: Temporary storage of waste products and recovered product may be limited in some areas.

4. Cost Recovery/Documentation

Refer to the *Unified Plan, Annex C, Appendix I* (Federal Spill Funding Procedures), and *Appendix III* (State Administrative Guidelines).

5. Public Affairs

The Incident Commander/Unified Command will direct all media inquiries to the Public Information Officer(s). The Public Information Officer position may be filled jointly by regulatory agency and RP representatives. A Joint Information Center (JIC) may be established. For local media contacts, consult the Resources Section, Part Three of this plan. Refer to **Annex I of the Unified Plan** for statewide guidance on Public Affairs inquiries.

E. POTENTIAL PLACES OF REFUGE

Refer to the Section H of this plan and Annex O of the Unified Plan for specific information on PPOR sites pre-identified for the Cook Inlet Subarea.

Imperiled, structurally damaged, or leaking vessels may need to be brought into a harbor or anchored or moored in protected waters to make repairs to stop the loss of oil or other hazardous substances. Likewise, vessels that have lost power or steerage may need to be brought into a place of refuge for repairs to prevent a shipwreck that could result in the loss of fuel, hazardous substances, or other cargo. Taking these actions would help prevent or minimize potential adverse effects to the public, the environment, and resource users.

Each vessel incident presents unique circumstances that the UC must address. The goal is to safely repair or salvage a damaged vessel while avoiding or minimizing impacts to local resources. Prior to bringing a vessel into an anchoring or mooring location, the UC will need to consider:

- Status of the vessel
- Public safety
- Environmental resources at risk
- Strategies to protect sensitive areas
- Prevailing winds
- Navigational approach to the mooring site
- Anchoring ground
- Vessel traffic
- Available dock and support facilities
- Available skilled and spill response labor

The USCG Captain of the Port (COTP) – Western Alaska has jurisdiction over approving temporary mooring or anchoring locations for leaking or damaged vessels within this area. The COTP will consult with natural resource trustees and other appropriate stakeholders (e.g., tribal, State, and local government representatives) when deciding where and when to move a stricken vessel.

In October 2004, the Alaska RRT approved the *Guidelines for Places of Refuge Decision-Making*. These guidelines were developed by the ARRT Places of Refuge Subcommittee composed of representatives from the USCG, EPA, U.S. Department of the Interior, U.S. Department of Commerce, U.S. Department of Justice, ADEC, Alaska Department of Fish and Game, Alaska Department of Natural Resources, oil spill cooperatives, industry production and transportation interests, Alaska marine pilot representatives, salvage operators, and regional citizens advisory councils. Refer to *Unified Plan, Annex O* for the complete

guidelines.

F. GEOGRAPHIC RESPONSE STRATEGIES (GRS)

The GRS provide unified (public, responders, and agencies) priorities and response tactics for the protection of selected sensitive areas for assisting first responders to an oil spill. The GRS list the sensitive resources of an area and the response strategies, equipment, personnel and logistical information necessary to protect the identified sensitive areas. Because ADEC, EPA, and USCG already have approved the GRS, they can serve as pre-approved strategies for the Unified Command during the emergency phase of an oil spill response. See section G of this plan.

G. SEAFOOD PROCESSOR PROTECTION PLANS

There are currently no seafood processing plans within the jurisdiction of this plan.

H. ALASKA COMMERCIAL FISHERIES WATER QUALITY SAMPLING METHODS AND PROCEDURES

See the following website for detailed information on water quality sampling methods and procedures to determine the presence/absence of oil contamination that could potentially impact the commercial fisheries of Alaska. http://dec.alaska.gov/spar/ppr/wq/wq_manual.htm

I. MARINE RESPONSE AND SALVAGE RECOVERY

1. BACKGROUND

> ***A significant portion of the Marine Response and Salvage Section was derived from the Cook Inlet Risk Assessment (CIRA) Final Report, available at http://www.cookinletriskassessment.com/documents.html.***

The intent of this section is to provide responders and key decision makers with the most relevant data concerning potential response and salvage options.

2. WEATHER CHARACTERIZATION IN THE COOK INLET

Winds near the coast are only slightly less variable than over the open sea. As this coastline is irregular, with many islands, channels, and inlets, and is often steep, there are strong local effects to both wind speed and direction. In general, prevailing winds set parallel to the coastline, while speeds are increased by funneling effects or decreased by blocking.

The gale frequencies of less than one percent at the Port of Anchorage can be misleading since they are usually much more sheltered than their approaches. This is reflected in the frequencies of calms, which range from 12 to 40 percent during the winter season. Storms and williwaws are responsible for the gales that are most likely in early winter. Williwaws, which blow down from the mountains in winter, occur along most of the coast; they are particularly severe at Seward. Extreme sustained winds have reached 66 knots at Anchorage. Gusts of 60 knots or greater occur almost monthly during the winter season.

In general, northeasterlies and easterlies prevail in Cook Inlet. In Cook Inlet, winds are most frequent from the north, with topography causing deflections to the northwest and northeast in some sections. At Anchorage, winter northerlies give way to southeasterlies and southerlies from May through September. At Kenai, northerlies prevail in winter, although gales are often out of the east in early

winter and southeast later on; summer winds blow out of the south through southwest. At Homer, winter northeasterlies give way to summer southwesterlies.

Precipitation along this coast is also greatly influenced by topography. The annual average is 16 inches (406 mm) at Anchorage. Snow is likely from October through April. At Valdez, an average of 67 inches (1702 mm) falls in January compared to 7 inches (178 mm) at Kenai. April through June is often the driest period.

Poor visibilities are mainly caused by advection or sea fog in the summer, and land fog or precipitation in winter. In general, sea fog affects exposed ports, while land fog is more of an influence at sheltered spots. However, visibilities are most likely to drop below one-half mile on winter mornings, even at exposed ports. Land fog can be very dense for short periods. Fog banks frequently hang over open waters after the harbors have been cleared. Occasionally in winter, if extremely cold air moves over the water, a steam fog or frost smoke may be experienced as relatively warm water evaporates into much colder air.

Air temperatures are mild for these latitudes and reflect the influence of the land and the sea. The more continental ports have a wide daily and annual temperature spread compared to those exposed to the sea. A noticeable cooling begins in September, when daytime highs average in the low to middle 50's °F (11° to 14°C), with nighttime lows in the lower forties (5° to 6°C). January is usually the coldest month and is the time when the difference between exposed and sheltered locations is most noticeable. In the sheltered Cook Inlet, average maximums are in the low twenties (-6° to -4°C), while minimums drop to about 5°F (-15°C) or less. At Seward, daytime highs average 30°F (-1.1°C), with nighttime lows of 18 F (-7.8°C). At continental locations like Kenai and Anchorage, temperatures fall below 0°F (-17.8°C) on an average of 10 to 15 days in January, compared to 3 days at Seward. Freezing temperatures, also more frequent at sheltered locations, are common from October through April. Extreme low temperatures range from a -24°F (-31.1°C) at Homer to a -48°F (-44.4°C) at Kenai. A noticeable warming begins in April, and the difference between the two types of locations becomes less noticeable. Daytime highs in the low to mid forties (5° to 8°C), and nighttime lows in the upper twenties to low thirties (-2° to 1°C), are common. July and August are usually the warmest months. Maximums average in the low to middle sixties (16° to 19°C), while minimums are frequently in the mid– to upper forties (7° to 9°C). It is often warmest at the more sheltered ports. Extreme highs reach the mid– to upper eighties (29° to 32°C).

Ice is most often a problem along this coast in Cook Inlet. The upper end is usually closed by ice to all but heavily-built vessels, from December until late March. Elsewhere in the rivers and bays, waters partially freeze after December 1, and some floating ice is seen through May. This ice usually does not interfere with navigation.

3. EMERGENCY TOWING SYSTEM

An Emergency Towing System (ETS) is a pre-staged package of equipment that may be deployed in the event a disabled vessel requires assistance in accessing a place of refuge. A manual that instructs responders on the operations of system as well as procedures for deployment accompanies the system. The system is designed to use vessels of opportunity to assist disabled vessels that are in Alaskan waters. It consists of a lightweight high performance towline, a messenger line used in deploying the towline, a lighted buoy, and chafing gear. These components may be configured to deploy to a disabled ship from the stern of a tugboat or airdropped to the ship's deck via helicopter.

Within the last decade, several distressed or stricken vessel incidents occurred in or near Alaska. In a few cases these have caused environmental and economic repercussions. In each situation, the vessel was a non-tank vessel that was not required to be of a double hull construction or cargo type vessels, which generally carry fuel in bottom tanks, thus posing a significant pollution risk in grounding.

The ETS program came into existence following the near grounding of the Salica Frigo on March 9, 2007 in Unalaska Bay. The Mayor of Unalaska convened a Disabled Vessel workgroup to address the possibility of future groundings and to discuss local emergency response solutions. This initial meeting prompted the Emergency Towing System (ETS) workgroup; whose goal was to develop emergency towing capabilities for disabled vessels in the Aleutian Subarea using locally available tugboats in conjunction with ETS equipment stationed in Unalaska.

The project continued over the past five years with a mobilization and deployment exercise conducted annually in Unalaska. In December of 2010 the ETS system was deployed from Unalaska in an emergency situation to assist the disable cargo vessel Golden Seas. This equipment, along with the availability of an appropriate sized towing vessel helped avert a possible grounding.

Since the programs origin, it has expanded statewide. The Alaska Department of Environmental Conservation has purchased and stored 10 inch Emergency Towing Systems. There are currently three ETS available for deployment in the Cook Inlet Subarea: A large unit at the ADEC Warehouse in Anchorage and two large units at U.S. Coast Guard Air Station Kodiak. Those staged at Kodiak would likely provide the best response time as the system in Anchorage would have to be transported to either the Anchorage International Airport or the Joint Base Elmendorf Richardson Airport and then sling loaded by either a U.S. Coast Guard Jayhawk or an Alaska Air National Guard Blackhawk.

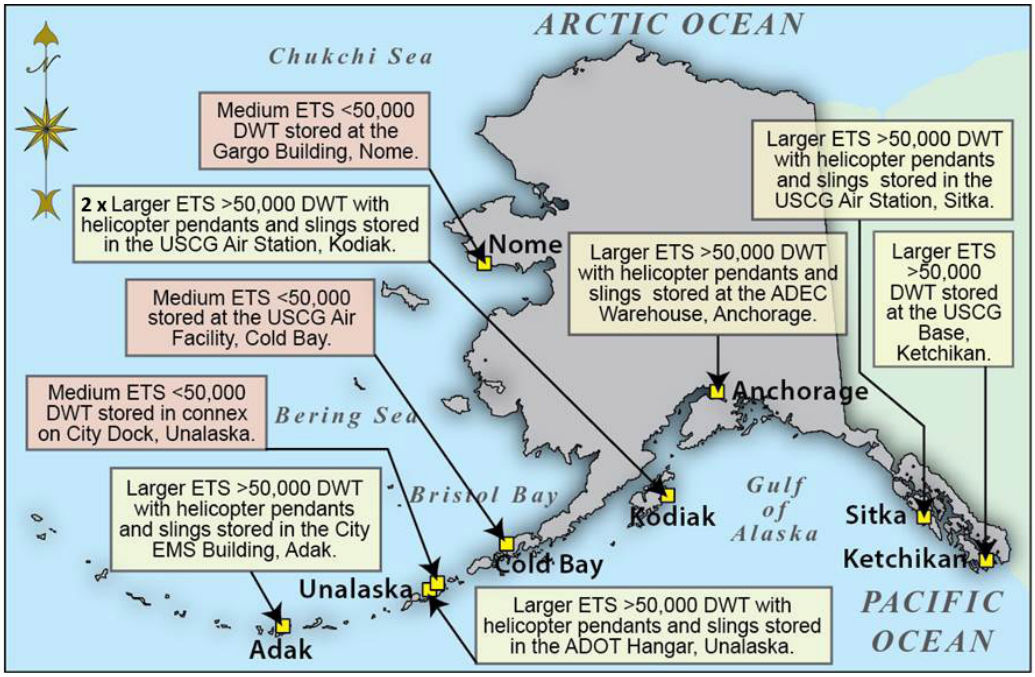

Figure I.3.1 Emergency Towing System Locations

The Emergency Towing System Procedures Manual is available at https://dec.alaska.gov/Spar/ppr/ets/index.htm.

4. EMERGENCY TOWING AND VESSEL SELF-ARREST

Some CIRA risk reduction options seek to prevent an accident if an incident occurs. This includes rescuing a distressed vessel to prior to its grounding or allision. A ship without power will drift with the wind and current until repairs are affected or a rescue vessel capable of securing a tow arrives. Much of the coastline of Cook Inlet is rocky, and the Upper Inlet is quite narrow, presenting a number of hazards for a disabled vessel. Whether a rescue prior to grounding is possible depends on the location of the distressed vessel, location and capability of rescue tug(s), and the wind, sea state, currents, and other conditions at the time of the incident.

Two types of risk reduction measures in this category are considered. First, the potential for emergency towing is considered by evaluating the availability, minimum capability requirements, and window of opportunity for tugs of opportunity to assist a distressed vessel in Cook Inlet. In the event that emergency towing was not available, suitable, or able to reach a distressed vessel in time, the capability for a disabled deep draft vessel to self-arrest (deploy an anchor to secure its position) is considered.

Emergency towing and vessel self-arrest are influenced by a wide range of factors, including, but not limited to, the exact conditions at the time (wind, tide, currents, or other complicating factors such as ice, temperature, and visibility); the size of the distressed vessel and nature of the problem; the location of potential rescue vessels and their location, speed, power, equipment, willingness to respond, and whether they have a tow underway; and the skills and abilities of personnel involved on both vessels as well as any shore support required. Because of the complexity and variability involved in these operations, it was not possible to develop general estimates for emergency towing or vessel self-arrest. Instead, these risk reduction options were explored through a series of representative scenarios, considering a range of environmental conditions, and relying heavily on the input of the subject matter expertise of the Advisory Panel. In some cases, the analysis points to the need for further study. Table 5 summarizes the tug scenario parameters.

Table I.4.1. Tug scenario parameters

Locations	Vessel Types	Environmental Conditions
Upper Cook Inlet in the shipping lanes 13 nm north of the East Forelands Kachemak Bay in the shipping lanes along the route to the Homer Pilot Station Kennedy Entrance on the vessel route midway between the Barren Islands and Point Adams	338,000 bbl oil tanker similar to those calling at Nikiski 1,500 TEU containership similar to those calling at the Port of Anchorage	Median (common) wind, sea state, currents, and ice conditions 90th percentile (adverse) conditions for the same environmental factors

Potential for Tug of Opportunity Rescue

The potential need for additional emergency towing vessels to assist a disabled ship in Cook Inlet was highlighted by the 2006 grounding of the *T/V Seabulk Pride* and has been raised in the Cook Inlet Navigational Safety Forum in 2007 (Cook Inlet RCAC, 2007). Partly, because of this concern, and prior to the start of the CIRA, a docking assist tug was added at Nikiski in 2005 (In addition to the docking assist tug, following the *T/V Seabulk Pride* incident the U.S. Coast Guard modified the winter ice guidelines. Ice was involved in dislodging the vessel from its mooring). Coincidentally, increasing oil and gas activity in the Inlet has brought more offshore supply vessels with secondary towing capability to the Inlet.

This section considers the potential for a tug or towing-capable vessel already present in Cook Inlet and surrounds to be able to rescue a drifting deep draft vessel.

Estimated Minimum Tug Size Required

The *Evaluation of 2012 Tugboat Response Times* (The Glosten Associates, 2013b) estimated the minimum bollard pull required to control a disabled vessel, assuming the rescue vessel arrests the drift of the disabled vessel and turns it into the direction of the prevailing drift (gain control and arrest its drift). The estimated minimum bollard pull is derived from the scenario conditions summarized in Table I.4.1 and depicted in Figure I.4.1.

When considering scenarios *without* sea ice present, the analysis calculated that the greatest required tug bollard pull at approximately 30 MT for both vessels in the Kennedy Entrance case during winter (90^{th} percentile conditions). Tables 6 and 7 summarize the required tug bollard pull calculated in each load case for the containership and oil tanker, respectively. Some Advisory Panel members with experience operating towing vessels on Cook Inlet indicated that they believed that 30 MT would be inadequate in many conditions.

When considering the scenario with 70% ice coverage (the 90^{th} percentile condition for sea ice) in Upper Cook Inlet, however, the analysis showed that it would not be feasible to turn and arrest a disabled vessel and instead calculated the maximum required tug bollard pull to arrest only (without turning) for the containership and oil tanker at 72 MT and 67 MT of bollard pull, respectively. Several members of the Advisory Panel noted the there might be other solutions available to rescue a disabled vessel in ice, such as turning and towing the vessel with the current. Thus, we use the 30 MT for no-ice conditions as the minimum required tug for the remaining analysis, and acknowledge that while the bollard pull required in ice conditions would likely be significantly higher, a firm estimate is not available for the months and locations of the Inlet when sea ice is present in high concentrations. Further study may be warranted to determine the range of bollard pull necessary during winter ice conditions.

Figure I.4.1 Three scenario locations for Cook Inlet towing analysis

Table I.4.2. Estimated required bollard pull for example containership (The Glosten Associates, 2013b)

Load Case	Environmental Condition					
	50th percentile			90th percentile		
Region	Upper	Kachemak	Kennedy	Upper	Kachemak	Kennedy
Turning and Arresting (MT)	70.60	3.20	20.70	-	11.90	47.50
Turning Load Only (MT)	0.80	0.80	2.60	-	4.30	7.70
Arresting Load Only (MT)	15.00	0.80	5.40	-	3.10	23.60
Tug Efficiency	0.80	0.80	0.80	-	0.80	0.78

Required Tug Bollard Pull (MT)	18.70	1.00	6.70	-	5.40	30.30

Table I.4.3. Estimated required tug bollard pull for example tanker (The Glosten Associates, 2013b)

Load Case	Environmental Condition					
	50th percentile			90th percentile		
Region	**Upper**	**Kachemak**	**Kennedy**	**Upper**	**Kachemak**	**Kennedy**
Turning and Arresting (MT)	69.90	3.20	20.40	-	11.70	46.60
Turning Load Only (MT)	0.80	0.70	2.60	-	4.30	8.40
Arresting Load Only (MT)	14.80	0.80	5.20	-	3.00	21.30
Tug Efficiency	0.80	0.80	0.80	-	0.80	0.78
Required Tug Bollard Pull (MT)	18.50	1.00	6.50	-	5.40	27.30

Estimated Response Times for Tugs of Opportunity

The same locations, ships, and environmental conditions that were used in the evaluation of tugboat response times were also used to estimate how long it would take tugs or other towing-capable vessels in Cook Inlet to reach a distressed vessel. For this analysis, the term, “tugs of opportunity” is used to refer to all tugs and towing-capable vessels, including offshore supply vessels, escort vessels in Prince William Sound, harbor tugs, and U.S. Coast Guard vessels.

A total of 107 potential tugs of opportunity was identified using MXAK AIS data showing the location of self-identified tugs and offshore supply vessels in Cook Inlet, Kodiak, Seward and Prince William Sound at noon on Wednesdays in 2012. In total, there were 1,044 data points, or times when a tug was in the area at the designated time. It was assumed that tugs in tow would have to drop their tow at the closest port – either Port Graham, Seldovia, Homer, Drift River, Nikiski, or Anchorage - prior to going to the distressed vessel.

Using the same locations from the 2012 tug study and considering only tugs with at least 30 MT bollard pull operating in no ice, and based on the dataset from 2012, the average, worst, and best times for the first capable tug to arrive on scene are presented in Table 8.

Table I.4.4 Average, worst, and best length of time (in hours) required for the first capable emergency tow vessel to reach the three scenario locations in Cook Inlet

Scenario Location	Average	Worst	Best
Upper Cook Inlet	3.6	7.1	2.2

Kachemak Bay	5.4	13.0	2.6
Kennedy Entrance	7.4	10.2	3.5

Figure J.4.2 shows the breakdown of first response tugs to arrive at each location.

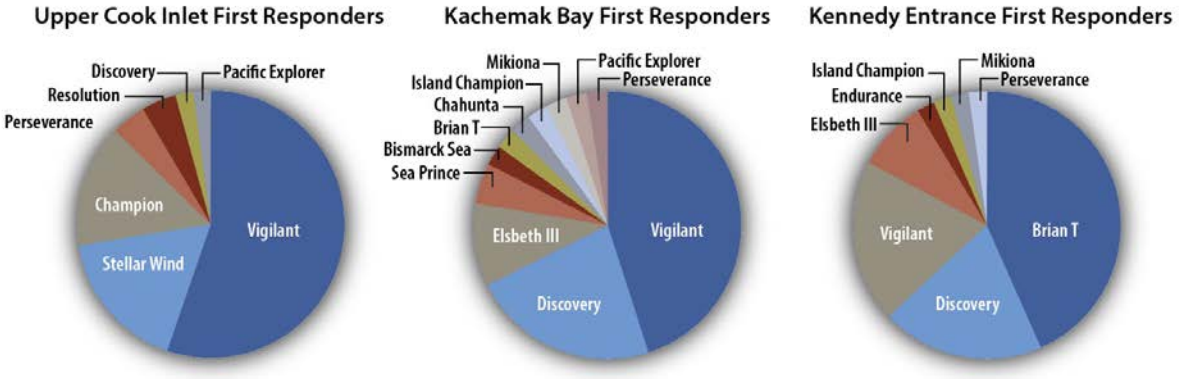

Figure I.4.2. Tugs arriving first on scene at three scenario locations

The average time for the first capable towing vessel to reach the Upper Cook Inlet scenario location was 3.6 hours. Due to the uncertainty of tug travel times in ice, only the 50th percentile (common) weather conditions were considered for this scenario. The most frequent first responders include the Vigilant (a Nikiski based docking tug), the Stellar Wind (an Anchorage based docking tug), the Champion (a Nikiski based offshore supply vessel), and the Resolution and Perseverance (both oil spill response vessels based in Nikiski). The best response time was 2.2 hours when the Vigilant responded from her location in Upper Cook Inlet under favorable tides and 50th percentile (common) weather conditions. The worst response time was 7.1 hours when the Stellar Wind responded from the Port of Anchorage under adverse tides and common weather conditions.

The average time for the first capable towing vessel to reach the Kachemak Bay scenario location was 5.4 hours. Both the 50th percentile (common) and 95th (adverse) weather conditions were considered for this scenario. The most frequent first responders include the Vigilant (a Nikiski based docking tug), the Discovery (an offshore supply vessel present to attend to an exploration jack-up rig), and the Elsbeth III (a tug that was moored in Homer in 2012). The best response time was 2.6 hours when the Discovery responded from her location in Port Graham under favorable tides and common weather conditions. The worst response time was 13.0 hours when the Brian T responded from Kodiak under adverse tides and weather conditions.

The average time for the first capable towing vessel to reach the Kennedy Entrance scenario location was 7.4 hours. Both the 50th percentile (common) and 95th (adverse) weather conditions were considered for this scenario. The most frequent first responders include the Brian T (a Kodiak based docking tug), the Discovery (an offshore supply vessel present to attend to an exploration jack-up rig), and the Elsbeth III (a tug that was moored in Homer in 2012). The best response time was 3.5 hours when the Discovery responded from her location in Port Graham under favorable tides and common weather conditions. The worst response time was 10.2 hours when the Viligant

responded from Nikiski under adverse tides and weather conditions.

The availability of potential rescue tugs was not consistent in every part of the Inlet or throughout the year studied. Generally, there were fewer potential rescue tugs in Lower Cook Inlet as compared to Middle and Upper Cook Inlet. There are times when transient tow vessels were in Homer, but in 40% of the weeks studied there were no tow vessels with a bollard pull >30 MT south of Anchor Point, including tugs towing barges. When considering only emergency towing vessels without barges this number increases to 64% of the weeks during which there was no first responder tow vessels available in Lower Cook Inlet.

These results are a snapshot of tugs available in 2012; the potential emergency tow vessels change over time, but the results are informative. The Nikiski based docking tug, the Bob Franco but previously the Vigilant, emerges as the most consistent first responder. The docking tugs stationed in Anchorage often are the first responders in Upper Cook Inlet. The Brian T, another docking assist tug based in Kodiak, appears the most common first responder in the Kennedy Entrance scenario. This tug is stationed 84 nm from the Kennedy Entrance scenario location, which is almost twice the distance from Homer. The fact that it is often the first responder speaks to the inconsistent availability of tugs of opportunity in Lower Cook Inlet. In this analysis it is assumed that docking tugs are always available to assist, which is not always true.

Offshore supply vessels and oil spill response vessels are also often the first responders. These vessels are usually in Central Cook Inlet, but in recent years offshore supply vessel activities associated with oil exploration in Lower Cook Inlet and drilling rig anchorage in Kachemak Bay or Port Graham have led to more offshore supply vessel activity in Lower Cook Inlet. The continued availability of these vessels in the Lower Inlet is uncertain.

Tugs with barges in tow were seldom first responders, due to the time necessary to secure their tow in a safe harbor or dock. Advisory Panel members have also pointed out that there are numerous contract, liability, and port requirement issues with assuming that a tug in tow can be counted on to drop its tow and assist a distressed vessel. Other than the Brian T, located in Kodiak, emergency tow vessels outside Cook Inlet were not able to reach the scenario locations before a capable tow vessel from within the Inlet. This indicates that vessels from Seward or Prince William Sound will likely not play a role in assisting disabled vessels in Cook Inlet.

Estimating How Likely a Tug is to Reach a Distressed Vessel Before it Drifts Aground

Risk of a drift grounding varies dramatically as a ship transits Cook Inlet:

- As a ship traverses the route from Kennedy Entrance to the Port of Anchorage, the shipping lanes vary considerably in terms of sea room, shoreline hazards, wind, and currents. Kennedy Entrance at the south end of the Inlet is 13 nm wide and 300 feet deep, and experiences the worst sea and winds of the entire Inlet. The steep, rocky shorelines present extreme hazards should the ship become disabled. Results of the tug arrival time study indicate it will on average take more than seven hours for a rescue towing vessel to arrive at the Kennedy Entrance scenario location.

- Kachemak Bay is also wide and deep but with smaller seas. The prevailing northerly winter

winds blow at right angles across the shipping lanes onto the southern rocky shoreline. Summer winds tend to blow along the length of the bay. On average it takes more than five hours for an emergency tow vessel to arrive at the Kachemak Bay scenario location.

- North of Anchor Point, the Central Inlet shoreline presents long tidal flats with a low sloping bottom and shoals that become friendlier to drift groundings, yet rock outcropping and boulder erratics still pose hazards. The channel gradually becomes narrower with depth restrictions and the tidal current begins to grow stronger. From this location on, the currents and prevailing winds are oriented in the same north-south direction as the channels. At the Forelands, the tidal current can exceed six knots. Low angle shorelines and high currents, with the additional drifting hazard of oil production platforms, also characterize Northern Cook Inlet. The average response time to the Northern Cook Inlet scenario is more than 3 hours. Near Anchorage, the channel becomes tidally restricted and ships can only proceed at high tide.

To compare the relative likelihood of a vessel incident, the amount of time required for a disabled to drift aground was analyzed for different locations. The first step was to estimate the length of time it would take for a disabled vessel at each scenario location to drift into shoal water. The drift rate for a given wind condition was taken from drift speed calculations for a typical containership (The Glosten Associates, 2012). The wind strength used was the 90th percentile wind in the direction of the hazard taken from the wind rose produced for the nearest wind station. Thus, 90% of time it will take *at least* the amount of time calculated for the vessel to drift to the hazard from the scenario location. Currents are not considered in this calculation. The distance drift time from each scenario location to the nearest grounding hazards is presented in Table 9, where the estimated time to grounding and estimated time for a response tug to arrive can be compared for different locations.

Table I.4.5. Distance and estimated drift time to nearest hazard, and average response time for three scenario locations in Cook Inlet

Scenario Location *Hazard*	Wind speed (knots)	Distance to Hazard (NM)	Time to Grounding/ Impact (Hours)	Average Time for First Response Tug to Arrive
Upper Cook Inlet				
Rocky shoal near Boulder Point	11	5.7	5.1	3.6
Granite Point Platform	7	5.7	6.3	3.6
Kachemak Bay				
Naskowhak Reef	14	2.3	1.3	5.4
Kennedy Entrance				
West Amatuli Island	16	7.2	3.3	7.4
Nord Island	17	8.5	3.6	7.4
Elizabeth Island	10	6.5	4.4	7.4

This approach can be generalized to the entire study area using the concept of a Zone of No Save (ZONS): an area in which a rescue tug might not arrive before a disable vessel could drift aground. The ZONS is contrived to show an area with a boundary. When a vessel is at the zone boundary there is a 90% chance that a rescue tug would arrive on-scene before a disabled vessel would be blown ashore by the winds that typically occur at that location. Inside this zone there is a proportionately lower chance that the tug arrives before grounding. Outside the zone there is a proportionately higher chance that the tug arrives before grounding. Note that the ZONS analysis does not consider the effect of currents, which might increase, decrease, or have no effect on the time to grounding. The assumptions made in this analysis represent favorable estimates of the time it will take for a tug to get underway. Actual response times are likely to be longer, and the ZONS is likely to be larger.

To conduct this analysis, hazards (rocky shorelines, isolated rocks, reefs, and oil platforms) were mapped along the entire coastline of Cook Inlet, and wind strength and direction data for each location were assembled from the nearest weather station. To create the ZONS, the 90th percentile wind conditions were calculated in every direction, at each hazard, and converted wind speed into drift speed for the example container ship. We then compared the time it would take the vessel to drift into a hazard to the time it would take a rescue tug to reach this hazard (Figure 11). Outside the zone, a tug could reach the ship before it impacted the hazard. Inside the zone, the ship could impact the hazard before a tug could reach it. The methods

used to calculate the ZONS can be found at
http://www.cookinletriskassessment.com/documents.html.

This analysis considers four tugs located in four different Cook Inlet ports: Anchorage, Nikiski, Homer, and Port Graham. The analysis was performed separately with each tug, and with all four together. Figure 11 presents two different ZONS cases--one assuming a tug is present in four ports and the nearest will respond and one assuming that the only available tug is at Nikiski.

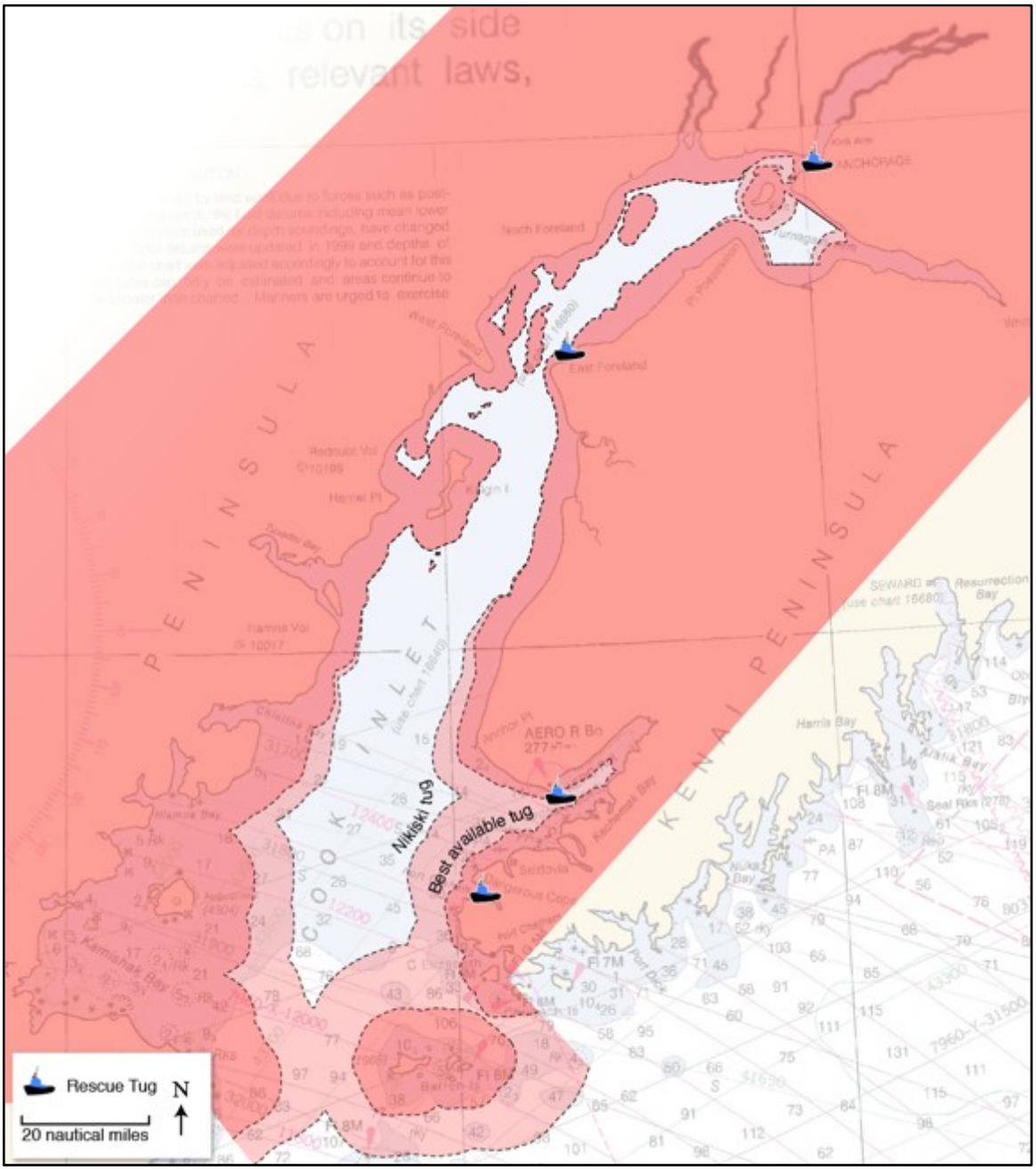

Figure I.4.3. Zone of No Save analysis for Cook Inlet, considering two cases: tugs available in *four* ports, and a tug available *only* at Nikiski

The darker pink area over water is the ZONS for the best available tug, assuming a tug is present in each port in the study (noted as tug icons), and the lighter pink area assumes that only the Nikiski docking tug is available for response. Figure 12 focuses on Lower Cook Inlet including Kachemak Bay and Kennedy Entrance and depicts the ZONS for each tug location.

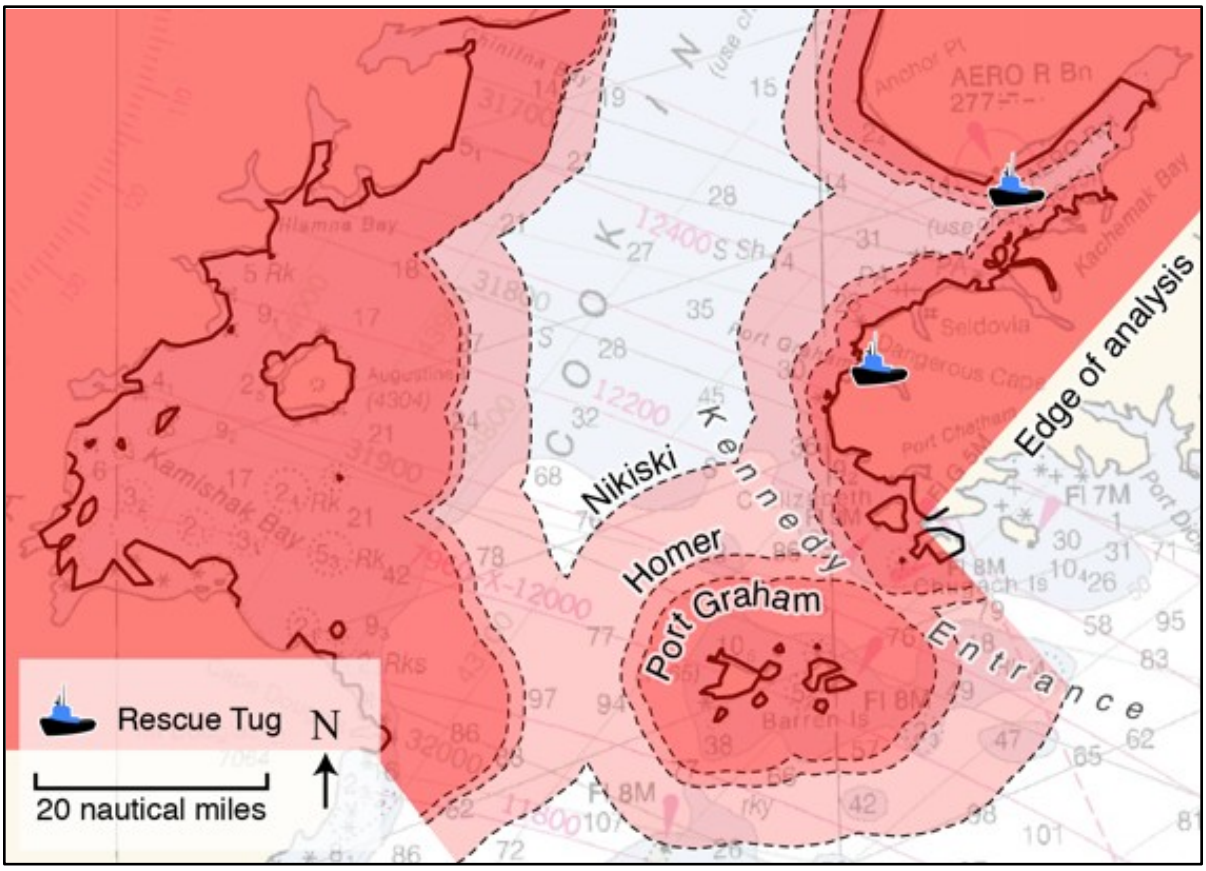

Figure I.4.4. Zone of No Save analysis for Lower Cook Inlet and Kennedy Entrance for tugs stationed at Nikiski, Homer, and/or Port Graham

It is difficult to generalize the length of time a distressed vessel will have before drifting into a hazard because every incident has unique circumstances, but the ZONS analysis provides a standardized look at the vulnerability of a distressed vessel to drift grounding. The analysis shows that large portions of Cook Inlet are outside the ZONS and thus an emergency towing vessel would likely reach a distressed vessel prior to grounding, but there are areas where ships are vulnerable.

Areas where the ZONS encompasses much of the waterway include the Forelands, the area near Anchorage and Fire Island, Kamishak Bay, and Kennedy Entrance. If no tug is available in Lower Cook Inlet, Kachemak Bay is also completely within the ZONS. The waterway is very narrow and draft restricted near Anchorage and the ZONS around Fire Island covers most of the shipping route to Anchorage. This is true even when a response is mounted from Anchorage. If the Nikiski tug is the first responder, the zone encompasses all of Knik Arm and the entrance to Turnagain Arm.

In Central Cook Inlet the inlet is narrow, shallow, and contains both shoals and offshore oil platforms. Even with the Nikiski tug responding from very nearby, there is a significant chance that a ship would impact a hazard before it could be rescued.

In Kachemak Bay, the shipping lanes are generally outside the ZONS when a towing vessel is available in Homer or Port Graham, but if there is no rescue vessel in these ports, the entire bay is within the ZONS.

In Kennedy Entrance, the ZONS encompasses almost the entire waterway, even when a suitable emergency towing vessel is located in Port Graham. Any ship transiting Kennedy Entrance that becomes disabled is vulnerable to a drift grounding before a rescue tug arrives.

Potential for Vessel Self-Arrest

If a tug is not available, or in order to allow the tug more time to reach a distressed vessel, the distressed vessel may deploy its anchor or anchors to slow or stop its movement towards grounding or other hazards. In most of Cook Inlet, the water depth and bottom type are favorable for a ship's anchor to reach bottom with enough scope to set the anchor before grounding. A literature review was completed to inform the discussion about the feasibility of this option in an emergency (The Glosten Associates, 2013c; Appendix B). Advisory Panel members offered subject matter expertise to this qualitative assessment.

There are widely varying opinions on using a ship's anchor to perform a self-arrest. While a successful self-arrest could make the difference between an oil spill and a vessel simply waiting in place for further assistance, there are some potential consequences to attempting a self-arrest procedure. These include injury or death caused by the improper deployment of the anchor or faulty equipment, or rupturing a subsea pipeline or otherwise damaging subsea equipment (The Glosten Associates, 2013c).

Local mariners, including marine pilots, consider self-arrest practical and safe, and in Cook Inlet, dredging an anchor is a common docking maneuver. In this situation, the Pilot sets the ship up into the current and takes way off of the vessel, at the appropriate time the anchor is realized and set as the ship drifts back with the current. Unlike this docking maneuver, which is performed under controlled conditions, using an anchor to self-arrest a vessel that has lost power can be more complex. Self-arrest was used during the 2006 grounding of the *T/V Seabulk Pride*, and although the tanker grounded, the use of the anchor allowed for a much more controlled grounding and likely minimized damage. A literature review revealed mixed results when this procedure was deployed in other waterways.

It was not within the scope of this analysis to quantify the circumstances where self-arrest anchoring will be successful. However, one approach to achieve this would be to conduct a more comprehensive study of the issue through simulations. More research into the efficacy of using an anchor to self-arrest in Cook Inlet is needed if this procedure is to be relied on as a risk reduction method for preventing grounding or similar incidents that could result in casualties or oil spills.