Puerto Rico & U.S. Virgin Islands Area Contingency Plan

2020.0

U.S. Department of Homeland Security

United States
Coast Guard

Commander
Seventh Coast Guard District
U.S. Coast Guard

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16471
06 Oct 2020

MEMORANDUM

From: DM
CGD SEVEN(d)

To: G SECTOR SAN JUAN AREA COMMITTEE

Subj: APPROVAL OF THE 2020 PUERTO RICO & U.S. VIRGIN ISLANDS AREA CONTINGENCY PLAN (ACP)

Ref: (a) Marine Environmental Response and Preparedness Manual, COMDTINST M16000.14A

1. My staff has reviewed your ACP and determined it to be in substantial compliance with reference (a). As such, I have approved your ACP and am forwarding the plan to the Coast Guard National Review Panel who will assess the adequacy of your plan, identify best practices, and provide areas of improvement to develop a five-year improvement plan to refine this ACP. This cycle of continuous refinement will ensure that we remain prepared to respond effectively to oil discharges and hazardous substance releases in the coastal zone.

2. Congratulations to you and your staff on completing and aligning your ACP with the new format and operational focus. Please pass along my personal thanks to your Area Committee for the effort that went into this update.

3. Any questions or concerns regarding Area Contingency Plans should be addressed to Mr. Richard Lavigne, the Incident Management and Response Specialist, at richard.j.lavigne@uscg.mil or 305-415-7138.

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Enclosure: (1) CG Sector San Jaun memo 16474 of07 Sep 2020
(2) 2020 Puerto Rico and U.S. Virgin Islands ACP

Copy: Unit files

U.S. Department of Homeland Security
United States Coast Guard

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16474
07 Sep 2020

MEMORANDUM

From: Gregory H. Magee, CAPT
CG Sector San Juan (s)

To: Distribution

Subj: PROMULGATION OF THE 2020 PUERTO RICO & U.S. VIRGIN ISLANDS AREA CONTINGENCY PLAN (ACP)

1. This letter promulgates the revised Puerto Rico & U.S. Virgin Islands Area Contingency Plan (ACP).

2. The ACP is designed to meet the requirements and intent of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), is aligned with the National Response Framework (NRF), and is built around the principles of the National Incident Management System (NIMS). The plan is effective immediately and supersedes previous editions of the Puerto Rico & U.S. Virgin Islands ACP.

3. This ACP is available in electronic format at https://homeport.uscg.mil/, enabling users to rapidly access a wide range of supporting documents that are linked to the ACP. For the ACP to provide maximum support, responders and members of the Area Committee, along with other port partners, must continuously update and revise the ACP with lessons learned through exercise and actual responses. Response personnel should familiarize themselves with this plan.

4. Comments, recommendations, and proposed changes are welcome and should be addressed to MSTCS Ryan McKay, Sector San Juan Emergency Management Division at (787) 729-4338 or Ryan.A.McKay@uscg.mil.

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Dist: Area Committee Members

Record of Changes

Change Number	Change Description	Section Number	Change Date
1			
2			
3			
4			
5			
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8			
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1000 Introduction

The Puerto Rico and U.S. Virgin Islands Area Contingency Plan describes the strategy for a coordinated federal, territorial, and local response to a discharge or substantial threat of discharge of oil, or a release or substantial threat of release of hazardous substance(s) within the boundaries of the Puerto Rican and the U.S. Virgin Islands coastal zone.

This ACP shall be used as a framework for response mechanisms to evaluate shortfalls and weaknesses in the response structure before an incident and as a guide for reviewing Vessel Response Plans (VRPs) and Facility Response Plans (FRPs) required by the Oil Pollution Act (OPA) of 1990, 33 U.S.C § 2701 *et seq*. VRPs and FRPs should be consistent with this ACP and address, among other things, the economically and environmentally sensitive areas within the geographic area, the response equipment (quantity and type) available within the area (this includes federal, state, and local government and industry owned equipment); response personnel available; equipment and personnel needs compared to those available, and protection strategies. This ACP is written in conjunction with OPA, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP, 40 C.F.R. Part 300) and the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA, 42 U.S.C. § 9601 *et seq*.). As such, when implemented in conjunction with other provisions of the NCP, this ACP should be adequate to remove a worst case discharge under § 300.324, and to mitigate or prevent a substantial threat of such a discharge, from a vessel, offshore facility, or onshore facility operating in or near the area.

1100 Purpose

The purpose of this PR and USVI ACP is:

- To provide for orderly and effective implementation of response actions to protect the public, natural resources, and property within the coastal zone of Puerto Rico and U.S. Virgin Islands from impacts of a discharge or substantial threat of discharge of oil or a release or substantial threat of a release of a hazardous substance(s).

- To promote the coordination of and describe the strategy for a unified and coordinated federal, territorial, local, responsible party, response contractor, and community response to a discharge or substantial threat of discharge of oil or a release or substantial threat of a release of a hazardous substance(s).

- To be consistent with the NCP, Region 2 Regional Contingency Plan (RCP), and to seamlessly integrate alongside joint operations conducted in accordance with the PR and USVI Area Maritime Security Plan and the Marine Transportation System Recovery Plan.

- To provide guidance to all VRP and FRP reviewers and plan holders to ensure consistency with the PR and USVI ACP.

- To provide guidance for responders. Historically, the users of the ACP have been confronted with incidents that were caused by nature (hurricanes, floods, etc.) or from the unintentional

actions of individuals (grounding, collision, etc.). In today's world where terrorism is a greater reality, the intentional release of a hazardous substance, oil, biological agent, or radiation poses unique challenges to those who respond. Federal and state laws and regulations require oil spills, hazardous substance releases or responses to weapons of mass destruction (WMDs) be managed with a trained and competent response management organization that accommodates a unified command structure in recognition of federal, territorial, or local jurisdiction.

- The PR and USVI ACP is designed to ensure that the initial actions taken in response to a hazardous substance release, oil spill, radiological, or biological incident that occurs in the maritime environment are effectively managed from the start and incorporate other agency plans and operating procedures as those agencies arrive on-scene. However, incidents are never identical, and once initial actions have been taken, responders will assess the incident and tailor their strategies and tactics to match the reality of the situation.

1200 Scope

The Puerto Rico and U.S. Virgin Islands Area Contingency Plan (ACP) is a plan prepared by the Puerto Rico and U.S. Virgin Islands Area Committee (AC) and includes those areas within the jurisdiction of U.S. Coast Guard (USCG) Sector San Juan and the U.S. Environmental Protection Agency (EPA). It is part of a family of plans to be implemented in conjunction with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) and the Caribbean Regional Contingency Plan (RCP), to address removal of oil and hazardous substances.
The area contingency planning process is based on the premise that proper planning is essential to a safe and effective response. The AC seeks to enhance the response community's ability to successfully mitigate substantial threats or actual incidents through an effective and coordinated planning process. The purpose of the plan is to define roles, responsibilities, resources and procedures necessary to respond to a myriad of spill response evolutions.

1300 Authority

Multi-agency (public agencies, nongovernmental organizations, industry, and general public) and multi-discipline responses are the norm in today's environment. The ability of local responders to conduct multi-agency response operations is absolutely essential to minimizing loss of life and damage to the environment, and to protecting property.

Pursuant to the NCP, Area Committees have been established for each area of the United States that has been designated by the president. The Area Committees are comprised of personnel from federal and state agencies that coordinate response actions with tribal and local governments and with the private sector. Area Committees, under the coordinated direction of the Federal On-Scene Coordinators (FOSC), are responsible for developing Area Contingency Plans (ACP) for their respective designated areas. Area Committees are also required to work with the response community to develop procedures to expedite decisions for the use of alternative response measures.

The Federal on Scene Coordinator (FOSC) is the pre-designated Federal official responsible for ensuring immediate and effective response to a discharge or threatened discharge of oil or a

hazardous substance. The USCG designates FOSCs for the U.S. coastal zones, while the EPA designates FOSCs for the U.S. inland zones.
The FOSC shall, to the extent practicable, and as soon as possible after the incident occurs, collect pertinent facts about the discharge, such as its source and cause; the identification of responsible parties; the nature, amount, and location of discharged materials; the trajectory of discharged materials; whether the discharge is a worst case discharge; the pathways to human and environmental exposure; the potential impact on human health, welfare, safety and the environment; whether the discharge poses a substantial threat to the public health or welfare; the potential impact on natural resources and property which may be affected; priorities for protecting human health and welfare and the environment; and appropriate resource documentation.

Government Agencies of the Commonwealth of Puerto Rico are assigned responsibilities according to Executive Orders No. 1991-26 and 4916-A, and Commonwealth Laws Numbers 13, 81, and 9 as they pertain to the integration and coordination of oil and hazardous substance releases and environmental emergencies. The Puerto Rico Environmental Quality Board (EQB) is the lead agency representing the Commonwealth of Puerto Rico for all oil spills that threaten Puerto Rico. The EQB is also the lead agency representing the Commonwealth of Puerto Rico for coordinating and providing technical assistance on all hazardous materials releases that threaten Puerto Rico.

The Virgin Islands Department of Planning and Natural Resources (DPNR), as mandated by Title 12, Chapter 17 of the Virgin Islands Code, is the lead state agency for all oil and hazardous materials spills that threaten the U.S. Virgin Islands. The Division of Environmental Enforcement serves as the law enforcement arm of the DPNR. Its primary function is to enforce all laws applicable to the protection, preservation and conservation of the natural resources and overall environment of the USVI.

Under OPA 90, the Responsible Party (RP) has primary responsibility for cleanup of a discharge. The response shall be conducted in accordance with their applicable response plan. Section 4201(a) of OPA states that an owner or operator of a tank vessel or facility participating in removal efforts shall act in accordance with the National Contingency Plan, and the applicable response plan required. Section 4202 of OPA 90 states that these response plans shall:

(i) Be consistent with the requirements of the National Contingency Plan and Area Contingency Plans;

(ii) Identify the qualified individual having full authority to implement removal actions, and require immediate communications between that individual and the appropriate Federal official and the persons providing personnel and equipment pursuant to clause (iii);

(iii) Identify, and ensure by contract or other means approved by the President, the availability of private personnel and equipment necessary to remove to the maximum extent practicable a worst case discharge (including a discharge resulting from fire or explosion), and to mitigate or prevent a substantial threat of such a discharge;

(iv) Describe the training, equipment testing, periodic unannounced drills, and response actions of persons on the vessel or at the facility, to be carried out under the plan to ensure the safety of the vessel or facility and to mitigate or prevent the discharge, or the substantial threat of a discharge;

(v) Be updated periodically; and

(vi) Be resubmitted for approval of each significant change.

Each Responsible Party for a vessel or facility from which a hazardous substance is released, or which poses a substantial threat of a release, is liable for removal costs as specified in CERCLA (42 USC 9601 et seq.)

1400 National Response System

The National Response System (NRS) was developed to coordinate all government agencies with responsibility for environmental protection, in a focused response strategy for the immediate and effective clean-up of an oil discharge or a hazardous substance release. The NRS is a three-tiered response and preparedness mechanism that supports the predesignated FOSC in coordinating national, regional, local government agencies, industry, and the responsible party during response. There are three levels of contingency plans under the national response system: The National Contingency Plan, Regional Contingency Plans, and Area Contingency Plans.

The NRS supports the responsibilities of the FOSC, under the direction of the Clean Water Act (CWA) as amended by OPA. The FOSC plans and coordinates response strategy on scene, using the support of the National Response Team (NRT), Regional Response Team (RRT), Area Committees, and responsible parties, as necessary, to supply trained personnel, equipment, and scientific support to complete an effective response to any oil discharge or hazardous substance release.

The NRS is designed to support the FOSC and facilitate responses to a discharge or threatened discharge of oil or a hazardous substance. The NRS is used for all spills, including a Spill of National Significance (SONS). When appropriate, the NRS is designed to incorporate a unified command and control support mechanism (unified command) consisting of the FOSC, the SOSC, and the Responsible Party's Incident Commander. The Unified Command structure allows for a coordinated response effort that takes into account the federal, state, local, and responsible party concerns and interests when implementing the response strategy. A Unified Command establishes a forum for open, frank discussions on problems that must be addressed by all parties with primary responsibility for oil and hazardous substance removal. The FOSC has the ultimate authority in a response operation and will exert this authority only if the other members of the Unified Command are not present or are unable to reach consensus within a reasonable time frame. During hazardous substance release responses in which a local agency assumes a leading role, the local agency may assume one of the unified commander roles. During responses to oil spills, local agencies are not always involved in the Unified Command; however, if they are not a member within Unified Command, they will provide agency representatives who interface with the command structure through a Liaison Officer or the state representative. When a Unified Command is used, there is a higher probability of establishing an Incident Command Post (ICP) and Joint Information Center

(JIC). It is possible to conduct operations using a virtual UC and many ICP functions are done remotely, e.g., during an ongoing pandemic. Efforts should be made to establish the ICP near the site of the discharge, while maintaining personal safety. All responders (federal, state, local and private) should be incorporated into the FOSC's response organization at the appropriate level.

Plans serve to formalize and document activities to be undertaken in the event of an incident. The National Response Framework and National Contingency Plan (NCP) address the national response structure and identify requirements for regional and area preparedness development. Regional Contingency Plans are developed by the RRT. The Area Contingency Plans are developed under the leadership of the USCG FOSC, following guidelines within the NCP and RCP, as applicable. Composed of federal, state, and local governmental representatives, the Area Committee develops an Area Contingency Plan (ACP) for responses to oil discharges and hazardous substance releases within their geographic area. Vessel Response Plans (VRPs) and Facility Response Plans (FRPs), developed by owners and operators, are designed to be consistent with the applicable ACP. The below diagram depicts the relationship of these plans.

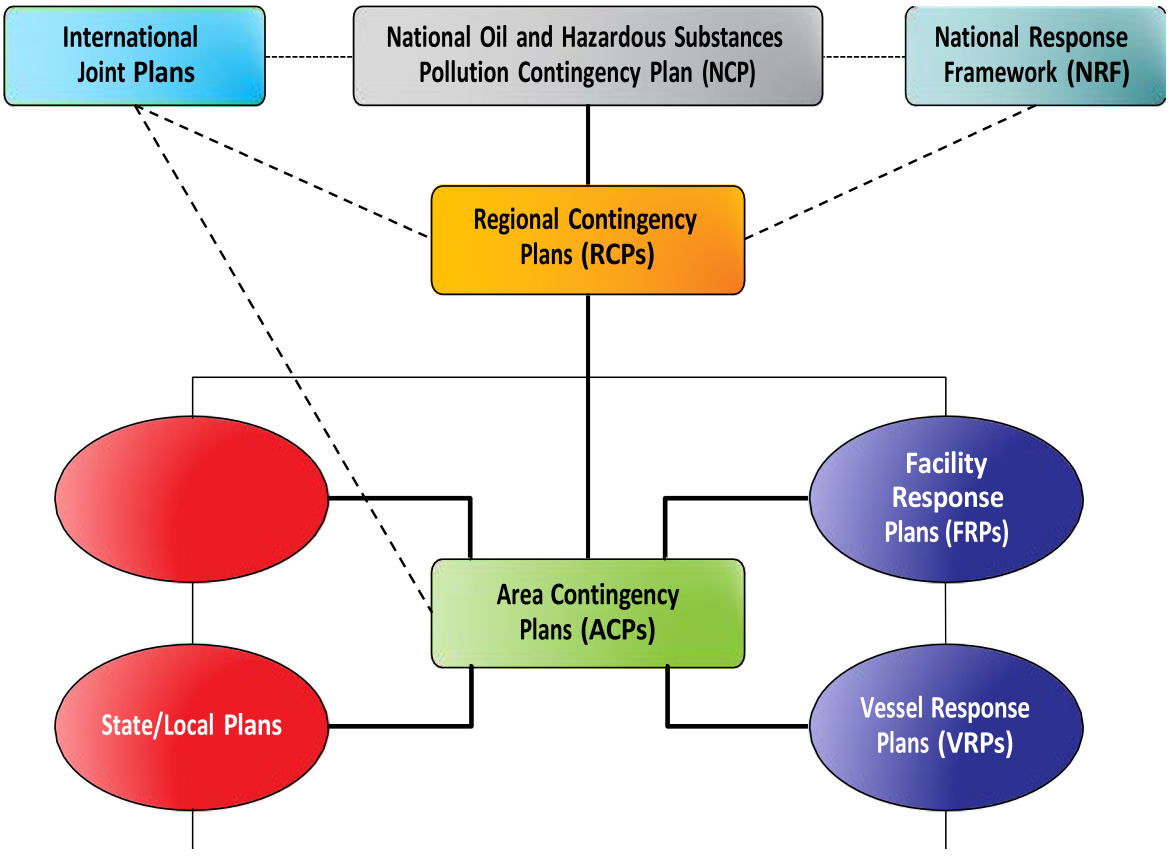


Figure 1: Relationship of Plans

2000 Puerto Rico and the U.S. Virgin Islands Area Committee

This document establishes the Puerto Rico and U.S. Virgin Islands (PR and USVI AC) pursuant to the OPA and Puerto Rico and U.S. Virgin Islands local law. OPA established Area Committees to serve as spill preparedness planning bodies responsible for developing strategies for coordinated responses to the discharge, or threat of discharge, of oil or hazardous substance releases, in predesignated inland and coastal zones.

The PR and USVI AC was established to cover The boundary of the Sector San Juan Captain of the Port Zone is referenced in 33 CFR Part 3.35-25. The AOR for the USCG and EPA FOSC's in the Caribbean includes all land and water under U.S. jurisdiction, to include the Commonwealth of Puerto Rico, the U.S. Virgin Islands, Navassa Island and all waters within the EEZ. This committee is led by the Coast Guard Federal On-Scene Coordinator (FOSC) from Sector San Juan and is responsible for the development, implementation, and maintenance, of the PR and USVI ACP.

2001 Mission Statement:

Our mission is to ensure the highest state of readiness of the spill response community. We will strive to accomplish this by developing a comprehensive and useful ACP, preparing the response community through training and exercises, developing coordination mechanisms to facilitate effective responses, and educating our stakeholders and the public.

2002 Vision Statement:

We will function as an efficient organization for ensuring effective response to environmental threats in our area. Our regulatory members and non-regulatory participants will include all stakeholders representing the federal, state, and local levels and the maritime, natural resource, and academic communities.

We will collaborate, sharing information and resources, to produce the best possible plans and creative solutions to problems. We will employ best available research and technology in both our problem solving and our decision making.

We will learn from our responses and activities, improve our processes, and develop as individuals and as an organization. We will be proud of our accomplishments and make great contributions toward the environmental protection within our area of responsibility.

2100 Organization

The PR and USVI AC is comprised of representatives from federal, state, and local governments as ***appointed members*** and ***members at large*** from non-governmental agencies such as the maritime industry, wildlife rehabilitation organizations, and academia, as advisors.

2101 Committee Chair and Vice-Chairs:

The USCG Captain of the Port (COTP), as predesignated FOSC for the Puerto Rico and U.S. Virgin Islands inland and coastal zones and the State On-Scene Coordinators for both Puerto Rico and the U.S. Virgin Islands will serve as Chairmen of the Area Committee. The FOSCs will also serve as the Co-Chairs of the Executive Committee.

2102 Executive Secretary/AC Coordinator:

The Executive Secretary/AC Coordinator from USCG Sector San Juan will coordinate with state agencies to prepare meeting agendas, schedules, and meeting notifications. The USCG will record, draft, and publish meeting minutes and attendance roster and coordinate remote participation access for meeting attendance.

2103 Executive Steering Group (ESG):

The Executive Steering Group (ESG) is the strategic decision-making body of the AC. The ESG consists of ***appointed AC members***; specifically, the FOSC, State On-Scene Coordinators, local emergency coordinator representatives, subcommittee chairs, and an executive secretary**.**

The ESG leads the AC by providing agenda items and establishing guidance for the work of the PR and USVI AC. The duties and responsibilities of the ESG are:

- Set the goals and priorities for the AC
- Assign and monitor projects of subcommittees
- Vote on issues
- Represent all entities who participate in the AC

The ESG meets on an annual basis, although special meetings may be called when needed. To balance interests, the annual meeting venue will alternate meeting locations between Puerto Rico and the U.S. Virgin Islands when possible. Ideally, ESG meetings will be held in conjunction with a PR and USVI AC Meeting in order to align the local, territorial, and regional level response priorities.

2104 Members and Members at Large:

A list of PR and USVI AC members and members at large is maintained by the Executive Secretary and can be found in Section 2000, Appendix 2 and Appendix 3.

2105 Subcommittees:

N/A

2200 AC Meetings

Area Committee meetings are open meetings. The USCG FOSC Chair shall attend/lead each meeting and provide an opportunity for participation by each regulatory member, each non-regulatory participant, and by any public attendees; ensuring adherence to the agenda; maintaining order; and reviewing recommendations submitted to the ESG. In the absence of the FOSC, these

duties shall be performed by the Sector San Juan Executive Officer, who serves as the Alternate FOSC.

2201 Meeting Frequency:

Area Committee meetings shall be held at least semi-annually. The PR and USVI AC consists of membership from Puerto Rico and the U.S. Virgin Islands. Therefore, the AC Meeting location will rotate between each area every six months when possible.

2202 Statewide Area Committee Meetings (SACMs):

N/A

2203 Remote Access Attendance:

The USCG will provide remote access availability to AC members, participants, and presenters who are unable to attend meetings in person to maximize stakeholder participation and communication.

2300 AC Annual Report

Sector San Juan shall submit an AC Annual Report emphasizing activities and best practices for the previous calendar year NLT 1 April of the following year to USCG D7 (drm) for review and endorsement. USCG D7 will review and route AC Annual Reports through USCG Atlantic Area to USCG Headquarters Office of Marine Environmental Response Policy (CG-MER) for final approval and compilation of nation-wide lessons learned and best practices.

2400 ACP Annual Update, Review, and Approval Process

The PR and USVI ACP shall be updated annually, reviewed and approved by USCG D7, and submitted to the Coast Guard National Review Panel (CGNRP) for review every five years.

2401 Annual ACP Updates:

The PR and USVI AC will review the ACP and document any changes or updates in the Record of Changes page. Additionally, and at a minimum, the AC will update the ACP version number, contact information, confirm phone numbers and addresses, notification procedures, and incorporate lessons learned as a result of real-world events and/or exercises. Annual updates will continue to be managed locally between the USCG unit and AC and be completed by 1 May.

2402 ACP Approval and CGNRP Review:

Coastal ACPs are formally reviewed and approved by USCG D7 every five years. After approval, USCG D7 submits the ACP for national review by the CGNRP. The CGNRP, comprised of CG-MER, USCG Atlantic and Pacific Area, National Strike Force Coordination Center, and District representatives, convene annually to review selected ACPs nation-wide. Nationwide, each coastal ACP is on a 5-year CGNRP review schedule.

Additional CGNRP information and requirements, including specific scheduling and expectations will be coordinated from USCG D7 to USCG field units.

2500 Area PREP Exercises

Per the National Preparedness for Response Exercise Program (PREP) Guidelines, which provides the framework for an effective oil spill and hazardous substance response exercise program, the PR and USVI AC shall hold four annual Incident Management Team (IMT) Tabletop Exercises (TTXs) and one Full-Scale Exercise (FSE) per 5-year period.

2501 Exercise Schedule:

USCG D7 (drm) will maintain the Area Exercise schedule and ensure visibility by the PR and USVI AC. PR and USVI AC will validate the proposed timeframe and identify the industry plan holder who will participate in each PREP exercise. Any schedule change requests shall be routed to USCG D7 (drm).

2502 Documentation:

Additional PREP-related exercise requirements, including development of Concept of Exercise (COE), After Action Report (AAR), Remedial Action Issues (RAIs), and Real-World Event (RWE) credit requests will be coordinated from USCG D7 to USCG field units.

Section 2000, Appendix 1 Executive Steering Group (ESG)

Table 1: Executive Steering Group (ESG)		
Personnel from the following entities serve on the ESG:		
1.	Federal	USCG COTP Sector San Juan
		USCG District 7
		National Oceanic and Atmospheric Administration (NOAA)
		Environmental Protection Agency Region II
2.	State	Puerto Rico Environmental Quality Board (EQB)
		U.S. Virgin Islands Department of Planning and Natural Resources (DNR)
		Puerto Rico Emergency Management Bureau (PREMB)
		U.S. Virgin Islands Territorial Emergancy Agency (VITEMA)
3.	Executive Secretary	USCG Sector San Juan Emergency Management

Note: Specific ESG designation letters are maintained by the AC executive secretary

Section 2000, Appendix 2 Area Committee Members

Table 2: Area Committee Members		
Below is list of *appointed* Area Committee Members:		
1.	Federal	USCG District 7
		USCG National Pollution Funds Center (NPFC)
		U.S. Environmental Protection Agency Region 2 (EPA)
		National Oceanic and Atmospheric Administration (NOAA)
		U.S. Fish and Wildlife
		National Weather Service (NWS)
		USCG Sector San Juan
		USCG Air Station Borinquen
		USCG Atlantic Strike Team (AST)
		USCG Base San Juan
		USCG Marine Safety Detachment St Thomas
		USCG Marine Safety Detachment St Croix
		USCG Resident Inspection Office Ponce
		Federal Emergency Management Agency (FEMA) Region 2
		Army Corp Of Engineers
		Centers for Disease Control and Prevention (CDC)
		Occupational Safety and Health Administration (OSHA)
		U.S. Custom and Border Protection (CBP)
		U.S. Department of Energy (DOE)
		USCG National Response Center (NRC)
		U.S. Department of Interior (DOI)
		U.S. Department of Transportation (DOT)
2.	State	Puerto Rico Environmental Quality Board (EQB)
		U.S. Virgin Islands Department of Planning and Natural Resources (DNR)
		Puerto Rico Emergency Management Bureau (PREMB)
		U.S. Virgin Islands Territorial Emergency Agency (VITEMA)
		Molecular Sciences Research Center (MSRC)
3.	Local	Puerto Rico Ports Authority
		Municipal Fire Department Hazardous Materials Response
		EcoElectrica
		Ponce Port Authority
		USVI Port Authority
		U.S. Virgin Islands Water and Power Authority

Note: Specific AC designation letters are maintained by the AC executive secretary

Section 2000, Appendix 3 Area Committee Members at Large

Table 3: Area Committee Members at Large		
Below is a list of Area Committee *Members at Large:*		
1.	Laboratories	Analytical Technologies
		Environmental Quality Lab
		Laboratorio Quimico
		Sanco Laboratories
		Spectron Laboratories Inc.
		BIO-QUIM
		Safety Kleen Envirosystems
		Caribbean Bioreasearch Inc.
		Becton Environmental Lab
		Phasor Engineering Inc.
		Soil Tech. Corporation
		Law Environmental Caribe
		Terra Vac
		EQ Lab
2.	Facility Owners or Operators	Limetree Bay Terminals
3.	Maritime	Puerto Rico Towing
		McAllister Towing
		Harbor Fuels
		South PR Towing
		Puerto Rico Towing and Barge Co.
		Immel's Marine Inc.
		Sea Tow
		San Juan Bay Pilots
		Port of Mayaguez Pilots
		Port of Las Mareas
		Port of Guanica
		St. Thomas Pilots
		St. Croix Pilots
4.	Wildlife Care Org.	Wildlife Response Services
		Caribbean Stranding Network
		Culebra Sea Turtle Project
		Tri-State Bird Rescue and Research
		San Juan Bay Estuary Program
		International Bird Rescue Center
		Texas Oiled Wildlife Response Program
		Culebra Leatherback Project
		Pro Health and Ambient of Mayaguez
		St. Croix Environmental Association

		Environmental Association St. Thomas/St. John
		St. Croix Foundation for Community Development
		Caribbean Natural Resources Institute
5.	Salvage Companies	Logan Diving and Salvage
		Gabriel Fuentes Jr. Construction
		Del Valle Group
		Donjon Marine Co. Inc.
		Carlos Jove Pratts and Carlos Jove Roman
		U.S. Army Corps of Engineers
		National Oceanic and Atmospheric Administration Fisheries
		Renan Lopez de Azua RLDA Surveying and Mapping
		Jose Caballero (Independent Contractor)
6.	OSROs	Caribbean Enviromarine Services Inc.
		Clean Harbors Environmental Services
		Indutech Environmental Services
		Marine Spill Response Corporation (MSRC)
		National Response Corporation (NRC)
7.	Academia	University of Puerto Rico Oceanography Laboratory
		University of Virgin Islands, Marine Advisory Services

3000 Geographic Information

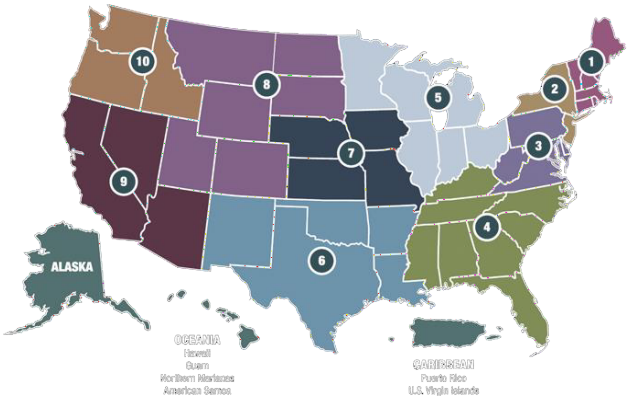
3100 ACP Area Covered

The information in this section defines the response boundary (inland zone and coastal zone) between the U.S. Coast Guard and EPA Region 2.

3101 Inland Zone Boundary Designation:

The U.S. Environmental Protection Agency (EPA) Region 2 provides the predesignated FOSC for pollution response in the Inland Zone. All discharges or releases, or substantial threats of such discharges or releases of oil or hazardous substances originating within the Inland Zone, are the responsibility of the EPA. Included are discharges and releases from unknown sources or those classified as "mystery spills."

RRT Areas



U.S. Coast Guard Districts

3102 Coastal Zone Boundary:

The relevant coastal USCG COTP is the predesignated FOSC for pollution response in the Coastal Zone. All discharges or releases, or substantial threats of such discharges or releases of oil or hazardous substances originating within the Coastal Zone are the responsibility of the USCG FOSC. Included are discharges and releases from unknown sources or those classified as "mystery spills." Specifically, the Coastal Zone description for the USCG Sector San Juan FOSC includes everything coastal of a line:

- The EPA and USCG jurisdictional boundaries are divided mostly by road or thoroughfare, beginning at the intersection of Route 1 and Route 26 in **San Juan**. The boundary runs East on Route 26; then North and East along Route 37, Calle Loiza to Route 187; then East along Route 187, until Route 3 in **Rio Grande**. The jurisdictional boundary then runs along Route 3 eastward to Route 194 in **Fajardo**; then along Route 194 back to Route 3 and then South to **Yabucoa** where the boundary then turns East onto Route 901 to Route 760 and back to Route 3; then West along Route 3 to **Salinas** where the boundary continues West along Route 1 into **Ponce**. In Ponce the boundary continues westward by turning

South along Route 2 onto Route 12 South, to Route 123 North, then North on Avenida Hostos, then West onto Route 585 North back to Route 2; then continuing West along Route 2 to **Tallaboa**. In Tallaboa the boundary follows westward along Route 127 onto Route 3336, to Route 335 South to Route 335R to the border of the Guanica National Forest. The boundary then runs westward along the Northern boundary of the National Forest to Route 334 in Guanica then West on Route 334 to Route 116 and continuing westward on Route 116 to Route 325, then West on Route 325 to Route 202, then West on Route 202 becoming Route 324 West, to Route 304 West then back to Route 202, then West on Route 202to Route 303, and then West on Route 303 to Route 301 North to Route 101 then West on Route 101 to Route 307, then West on Route 307 to Route 308, then West on Route 308 to Route 102 then North along Route 102 through **Mayaguez** to Route 64. Follow Route 64 Northwest onto Route 2 North; then onto Route 115 North onto Route 429 and then back to Route 115 North through **Rincon** and then North on Route 441 to Route 439 North back to Route 115 North through **Aguadilla** along the waterfront road of Routes 111, 442, 440 and back to 111 North onto Route 107 North through Air station Borinquen onto Route 110 to Route 4466 to Route 466 North to Route 113 East to Route 2; then along Route 2 East onto Route 4484 and East onto Route 485 onto Route 119 East in Camuy to Route 2; then continue East on Route 2 across the Rio Grande de Arecibo to Route 680 North then Route 6680 East and then East onto Route 2; then continue Route 681 becoming Route 684 to La Boca. The boundary line continues from El Malecon-La Boca across the Rio Grande de Manati and East, 100 meters inland from the shoreline to Route 6684, then East on 6684 to El Alto, to Route 685 (1685) eastward becoming Route 671 (6671) continuing East to Vega Baja to Route 692, then East on Route 692, then following the northern boundary of Pantano Cibuco Natural Reserve back to Route 692 and continuing East to the intersection of Routes 690 and 693, then East on Route 693 to **Dorado**; then in Dorado onto Route 165 East; then East on Route 888, Avenida Las Nereidas, then South along Route 24, through **Catano** back onto Route 165; then East on Route 28 and East on Route 2to Route 1; then North on Route 1 back to the starting point on Route 26.

- The EPA/USCG jurisdictional boundaries on Culebra and Vieques islands are delineated by an imaginary line that runs 100 meters inland from the water's edge. All of the Commonwealth's smaller islands, such as Mona Island, will be under the jurisdiction of the USCG FOSC.

- The boundary for St. Thomas begins near Crown Bay at the intersection of Route 30, **Moravian Hwy**. and Route 304 and runs West along Route 304; then North on Route 302, then Westward again on Route 30 along **Brewers Bay Road**; then North and East along Route 301, **West End Road**, Northeastward along Route 33, **Crown Mountain Road** to Route 333; then along Route 333 North on to Route 404; then along Route 37, **Hull Bay Road** and Route 40 to Route 35; then East and North along Route 35 to Route 42, **Mahogany Run Road**; then along Route 42 Eastward along Route 38, **Smith Bay Road** onto Route 32, **Redhook Road**; then Westward along Route 30, **Bovoni Road**, **Frenchman Bay Road** and **Veterans Drive** through Charlotte Amalie back to Route 304. All outlying islands including Water and Hassel Islands fall under the jurisdiction of the USCG FOSC.

- The EPA/USCG jurisdictional boundary on St. John is delineated by an imaginary line that runs 100 meters inland from the water's edge.

- The EPA/USCG jurisdictional boundary on St. Croix begins at Route 64 near the **Airport** and follows westward along **Melvin H. Evans Highway** to Christiansted Bypass, **and Fisher Street** in **Frederiksted**. In Frederiksted the boundary line runs East along Fisher Street and then North along **King Street**; then on to Route 63, Hans Bluff Road to and along **Maroon Ridge** to **Earle Road**, East along Earl Road; then North on Route 69 and East along Route 80, **North Shore Road** to Route 75, **North Side Road**; then East on Route 75 to Route 70, **Watergut Road**. From Watergut Road heading East, head northeast on **King Cross Street**; then northwest on **Strand Street**; then northeast on **Queen Cross Street**; then northwest on **King Street** to Route 66, **Hospital Street**; then from Route 66 along Routes 75 and 82, **East End Road**; then along Route 82 to Route 60, **South shore Road**; then along Route 60 onto Route 624; then South on Route 62, **South shore Road** to the boundary of HESS Oil Refinery (HOVIC). For the adjacent facilities of **VI Alumina Company** and **HOVIC**, refer to paragraph A-IV-B-2 above. From the Northwest corner of HOVIC the boundary line again begins and runs West along Route 660, **Melvin Evans Hwy**.; then South and West along Route 64 back to the starting point.

- Navassa Island falls under the jurisdiction of the USCG FOSC.

Any pollution incident taking place in an area outside the boundaries listed above fall under EPA FOSC jurisdiction.

The COTP's area of responsibility for the Sector San Juan Captain of the Port Zone is defined at 33 C.F.R. 3.40-28 Basically, the area of responsibility for the USCG FOSC and EPA FOSC in the Caribbean includes all land and water under U.S. jurisdiction, to include the Commonwealth of Puerto Rico, the U.S. Virgin Islands, Navassa Island, and all waters within the EEZ.

Figure 2: The Area of Responsibility for the Sector San Juan COTP and EPA FOSC

Navassa Island lies about 100 miles south of Guantanamo Bay, Cuba, between Haiti to the east and Kingston, Jamaica, to the west (latitude 18' 25" N and longitude 75' 02" W) in the Caribbean Sea. The island is approximately 5.2 square kilometers (km) in area, with a 12 nautical mile territorial sea, 200 nm EEZ and is currently uninhabited. It is an unincorporated territory of the United States and administered by the U.S. Fish and Wildlife Service as a National Wildlife Refuge.

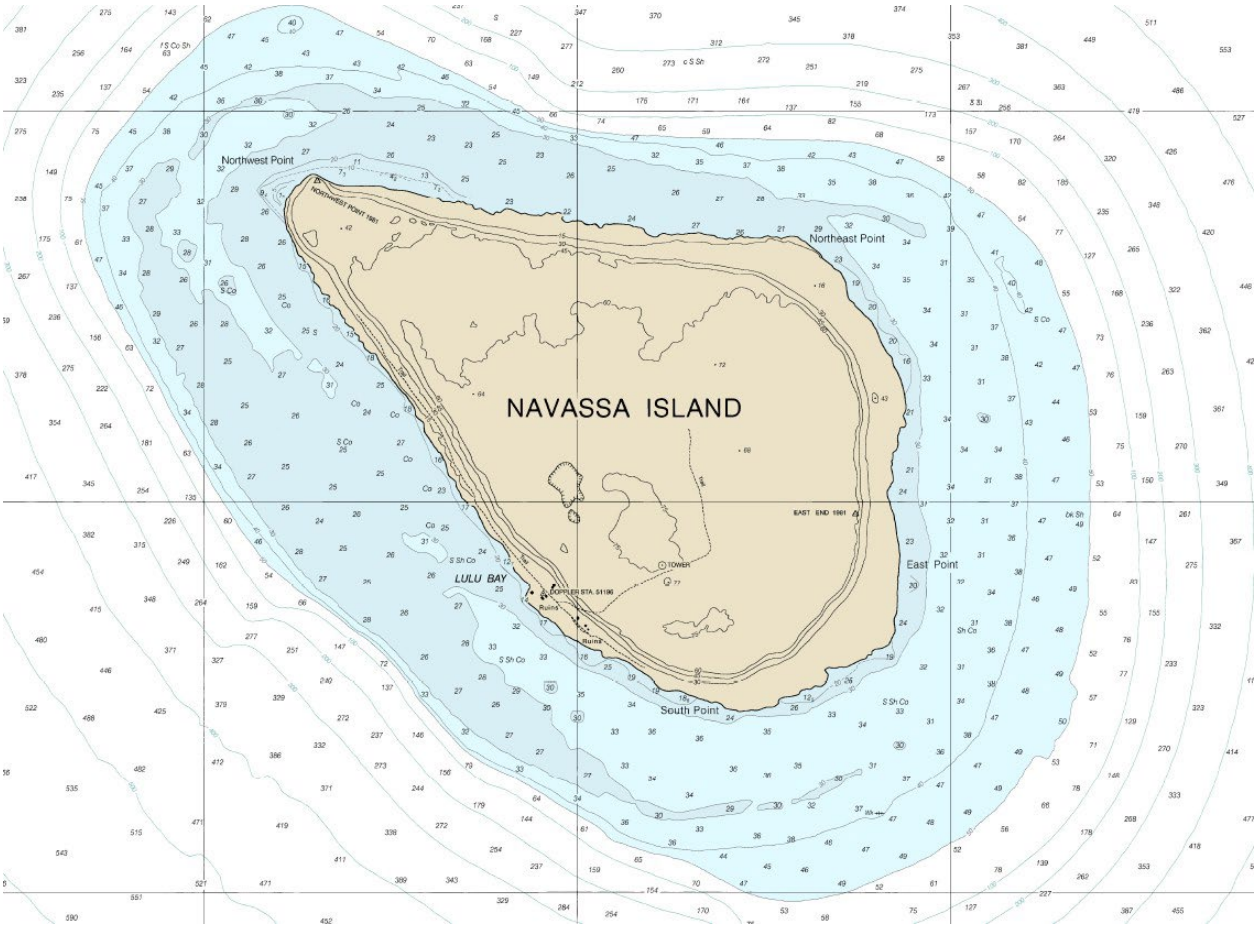


Figure 3: Navassa Island

3103 Area Municipalities:

The municipalities and sub districts covered in the Puerto Rico and U.S. Virgin Islands Area Contingency Plan are as follows:

Puerto Rico:

- There are 46 coastal municipalities (Reference Figure 4).

U.S. Virgin Islands:

- Saint Croix:
    1. Anna's Hope Village
    2. Christiansted
    3. East End
    4. Frederiksted
    5. Northcentral
    6. Northwest

7. Sion Farm
8. Southcentral
9. Southwest

- Saint Thomas:
    1. Charlotte Amalie
    2. East End
    3. Northside
    4. Southside
    5. Tutu
    6. Water Island
    7. West End

- Saint John:
    1. Central
    2. Coral Bay
    3. Cruz Bay
    4. East End

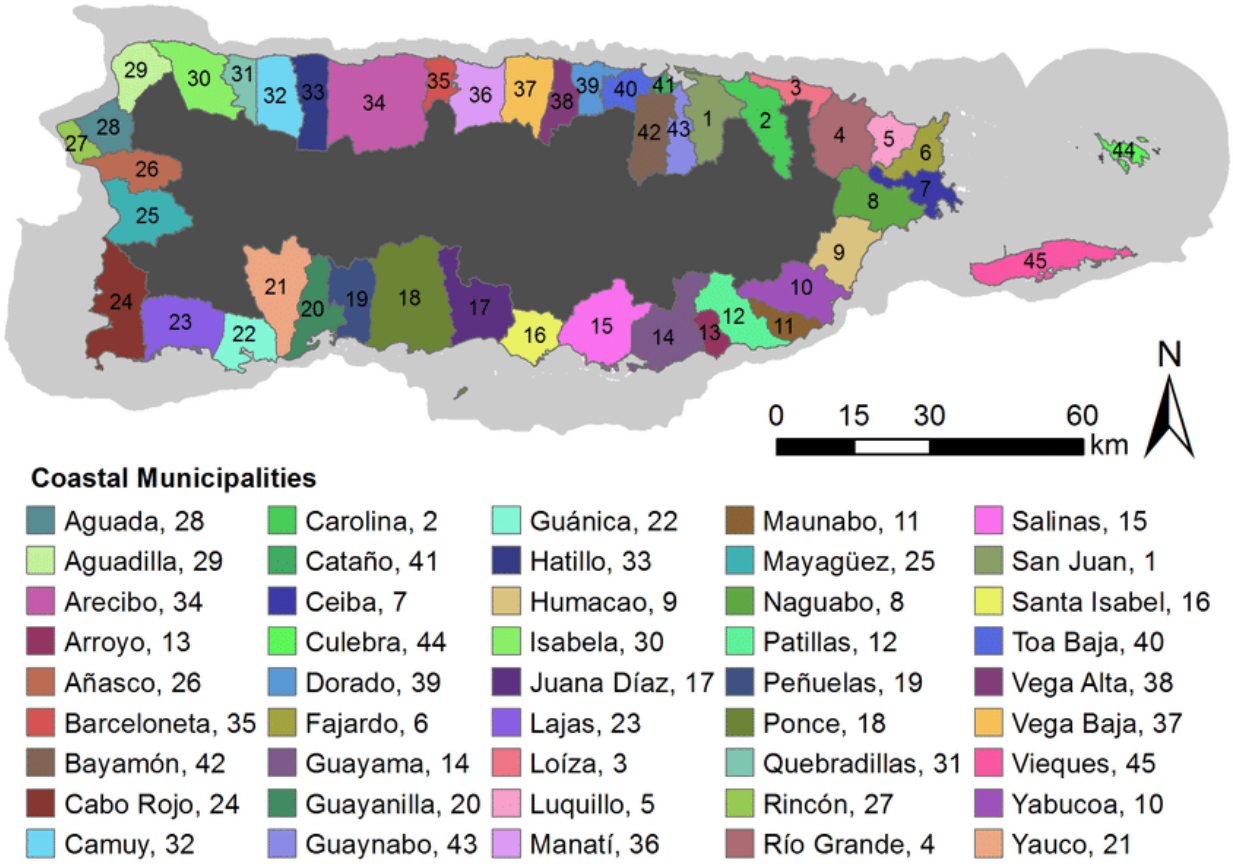


Figure 4: Puerto Rico Coastal Municipalities

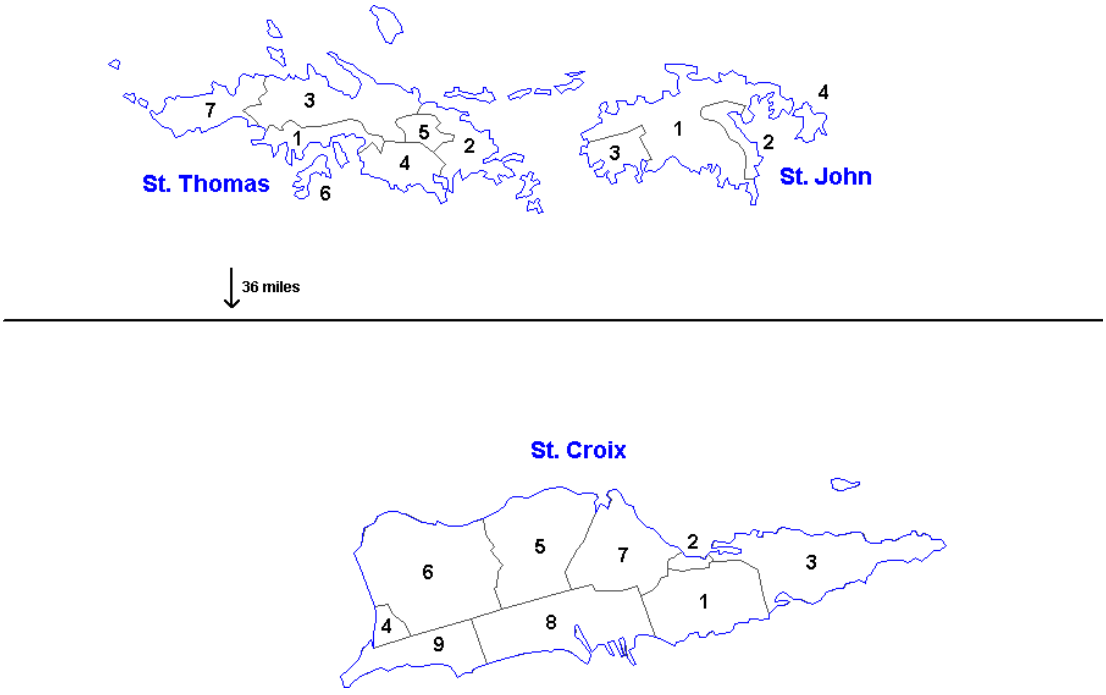


Figure 5: U.S. Virgin Island Sub Districts

3200 Areas of Special Economic or Environmental Importance

As required by 40 C.F.R. 300.210(c)(3)(i), areas of special economic or environmental importance shall be identified for protection from the impacts of a spill. Considerations include each location's significance, sensitivity to oil, anticipated impacts and the extent to which potential losses can be recovered/ restored/ compensated. Potential economically sensitive areas include water intakes, high tourism coastal areas, significant port/industrial facilities, marinas, aquaculture sites, and fishing grounds.

3201 Areas of Special Economic or Environmental Importance in Puerto Rico:

In development (to be completed by August 15, 2021)

3202 Areas of Special Economic or Environmental Importance in the U.S. Virgin Islands:

In development (to be completed by August 15, 2021)

3300 Worst Case Discharge Information

As per the CWA, a Worst Case Discharge (WCD) is defined as, in the case of a vessel, a discharge in adverse weather conditions of its entire cargo, and in the case of an offshore facility or onshore facility, the largest foreseeable discharge in adverse weather conditions.

3301 WCD Table for All Transportation Modes in Puerto Rico:

In development (to be completed by August 15, 2021)

3302 WCD Table for All Transportation Modes in the U.S. Virgin Islands:

In development (to be completed by August 15, 2021)

4000 Government Agency Roles & Responsibilities

Nationally, the U.S. Coast Guard has designated its coastal Captains of the Port (COTP) as the predesignated Federal On-Scene Coordinator (FOSC) within the coastal zone. As such, the USCG FOSC is the Chair of the respective Area Committee and oversees the development, maintenance and implementation of the Area Contingency Plan for their respective area.

4100 Federal Agency Roles and Responsibilities

Refer to the RRT-2 Regional Contingency Plan Volume 1 and the NRT website for a list of federal agencies and their roles and responsibilities related to ACP planning, preparedness, and response.

4200 The Commonwealth of Puerto Rico Roles and Responsibilities

Government agencies of the Commonwealth of Puerto Rico are assigned responsibilities according to Executive Orders No. 1991-26 and 4916-A and Commonwealth Laws Numbers 13, 81, and 9 as they pertain to the integration and coordination of oil and hazardous substance releases and environmental emergencies.

4201 The Puerto Rico Environmental Quality Board (EQB):

EQB is the lead agency representing the Commonwealth of Puerto Rico for all oil spills that threaten Puerto Rico. The EQB is also the lead agency representing the Commonwealth of Puerto Rico for coordinating and providing technical assistance on all hazardous materials releases that threaten Puerto Rico.

4202 The Department of Natural and Environmental Resources (DNER):

DNER plays a major role in all spills as the natural resource trustee agency, including assessment of damages to natural resources resulting from the incidents. The DNER Ranger Corps serves as the law enforcement arm of DNER. Its primary function is to enforce all laws applicable to the protection, preservation, and conservation of the natural resources and overall environment of Puerto Rico.

4203 The Puerto Rico Fire Department:

PR Fire Department has four hazardous materials response vehicles and has an emergency response team capable of performing emergency Level "A" entries.

4300 U.S. Virgin Islands Roles and Responsibilities

4301 The Virgin Islands Department of Planning and Natural Resources (DPNR):

DPNR, as mandated by Title 12, Chapter 17 of the Virgin Islands Code, is the lead state agency for all oil and hazardous materials spills that threaten the U.S. Virgin Islands. The Division of Environmental Enforcement serves as the law enforcement arm of the DPNR. Its primary function is to enforce laws applicable to the protection, preservation, and conservation of the natural resources and overall environment of the USVI.

4302 Virgin Islands Territorial Emergency Management Organization (VITEMA):

For all Spills of National Significance (SONS) and spills requiring the resources of two or more local agencies, VITEMA will participate in the Unified Command System Response Organization. In larger cases where numerous local resources need coordinating, VITEMA will activate its EMERGENCY OPERATIONS AND DISASTER CONTROL PLAN and ensure all needed Virgin Islands Government Agencies are incorporated into the ICS.

4400 Local Response Structure

N/A

5000 Technical Support to the FOSC

In addition to the support provided by the RRT, various sources of technical and scientific support are available to the FOSC either through telephone contact or actual dispatch of teams to the field. Support agencies and groups available to the FOSC include the following.

5100 Special Teams

5101 The USCG National Strike Force (NSF):

The National Strike Force's (NSF) mission is to provide highly trained, experienced personnel and specialized equipment to Coast Guard and other federal agencies to facilitate preparedness and response to oil and hazardous substance pollution incidents in order to protect public health and the environment. The NSF's area of responsibility covers all Coast Guard Districts and Federal Regions.

5102 The National Strike Force Coordination Center (NSFCC):

The NSFCC manages the NSF which is authorized as the National Response Unit required under OPA, with responsibility for administering the USCG Strike Teams, maintaining response equipment inventories and logistical networks, and conducting national exercise programs including pollution response exercises. The NSFCC offers the following: technical assistance and equipment for spill response, assistance in coordinating resources during oil discharge response, ACP or RCP review, coordination of spill response resources information, and inspection of Oil Spill Removal Organization (OSRO) response equipment. The Strike Teams provide trained personnel and specialized equipment to assist the FOSC in training for spill response, stabilizing and containing the spill, and monitoring or directing response actions of the RPs and/or contractors.

5103 USCG Strike Teams (Atlantic, Gulf, and Pacific):

The three USCG Strike Teams are available 24 hours a day. If the Strike Team contacted is already committed, another Strike Team will be deployed. Each Strike Team maintains trained personnel and specialized equipment to assist with training in responding to spills, stabilizing and containing spills, and monitoring and/or directing response actions of the RPs and/or contractors.

5104 Public Information Assist Team (PIAT):

PIAT is an element of the NSFCC staff available to assist the FOSC to meet the demands for public information during a response or exercise. Its use is encouraged any time the FOSC requires outside public affairs support. Requests for PIAT assistance may be made through the NSFCC or NRC. See the Spill of National Significance (SONS) Public Affairs Reference for more information.

5105 USCG Incident Management Assistance Team (IMAT):

The Incident Management Assistance Team (IMAT) was developed by the USCG to supply a ready-made team trained in the Incident Command System; these highly trained individuals assist the local Incident Commander in dealing with a major incident. The IMAT is located in Norfolk, VA. The team is trained for initial quick response to a regional or nationally significant event. The team consists of ICS process experts that can quickly set-up and assist in transitioning from the initial emergency phase to a more sustained planning process. The IMAT deploys with a limited amount of equipment to ensure ICS functionality within an Incident Command Post (ICP).

5106 USCG National Pollution Funds Center (NPFC):

NPFC is responsible for implementing those portions of OPA Title I delegated to the Secretary of the Department in which the USCG is operating. NPFC is responsible for addressing funding issues arising from actual and potential discharges of oil. Responsibilities of the NPFC include: (1) issuing Certificates of Financial Responsibility (COFRs) to owners and operators of vessels to pay for costs and damages incurred by their vessels as a result of oil discharges, (2) providing funding to various response organizations for timely abatement and removal actions related to oil discharges, (3) providing equitable compensation to claimants who sustain costs and damages from oil discharges when the RP fails to do so, (4) recovering monies from persons liable for costs and damages resulting from oil discharges to the full extent of liability under the law, and (5) providing funds to initiate Natural Resource Damage Assessment (NRDA) activities.

5107 USCG District Response Group (DRG):

DRGs assist the FOSC by providing technical assistance, personnel, and equipment. Each DRG consists of: the combined USCG personnel and equipment, including marine firefighting equipment, of each port in the district; and a district response advisory team. Specifically, the USCG's Seventh District Response Advisory Team (DRAT) and the Incident Management and Preparedness Advisor (IMPA) provides pollution planning, preparedness, and response policy guidance and assistance to an FOSC and staff on a regular basis.

5108 EPA Environmental Response Team (ERT):

In the event of a continuing release or discharge, the FOSC has access to EPA's ERT, stationed in Edison (New Jersey), Cincinnati (Ohio) / Erlanger (Kentucky), Las Vegas (Nevada), and Research Triangle Park (North Carolina). The ERT provides Scientific Support Coordinators (SSC) with expertise in treatment technology, biology, chemistry, hydrology, geology, and engineering. The ERT also has access to special decontamination equipment and can provide advice on a wide range of issues such as a multimedia sampling and analysis program, on-site safety (including development and implementation plans), cleanup techniques and priorities, water supply decontamination and protection, application of dispersants, environmental assessment, degree of cleanup required, and disposal of contaminated material. The FOSC may designate an SSC as principal advisor on scientific issues who also communicates with the scientific community and assists in requests to state and federal agencies.

5109 EPA Chemical, Biological, Radiological, and Nuclear (CBRN) Consequence Management Advisory Team (CMAT):

The CBRN CMAT, present at five geographic locations, provides 24/7 scientific and technical expertise to the FOSC or response customer for all phases of consequence management, including sampling, decontamination, and clearance. With a focus on operational preparedness, CBRN CMAT facilitates transition of the latest science and technology to the field response community in order to provide tactical options for screening, sampling, monitoring, decontamination, clearance, waste management, and toxicological/exposure assessment during decontamination of buildings or other structures following an incident involving releases of radiological, biological, or chemical contaminants. CBRN CMAT maintains critical partnerships with: (1) EPA's National Homeland Security Research Center and the EPA's special teams; (2) other federal partners including the U.S. Department of Homeland Security (DHS), Federal Bureau of Investigation, DOD, and Centers for Disease Control and Prevention (CDC)/Department of Health and Human Services (HHS); and (3) international partners.

5110 EPA Radiological Emergency Response Team (RERT):

RERTs have been established by EPA's Office of Radiation Programs (ORP) to provide response and support during incidents or at sites containing radiological hazards. Expertise is available in radiation monitoring, radionuclide analysis, radiation health physics, and risk assessment. RERTs can provide on-site support including mobile monitoring laboratories for field analysis of samples, as well as fixed laboratories for radiochemical sampling and analyses. Request for support may be made 24 hours a day via the NRC or directly to the EPA Radiological Response Coordinator in the ORP.

5111 United States Navy Supervisor of Salvage (SUPSALV):

SUPSALV has an extensive salvage/search and recovery equipment inventory, and the requisite knowledge and expertise to support these operations, including specialized salvage, firefighting, and petroleum, oil, and lubricants offloading capability even in open sea response incidents. SUPSALV can also provide equipment for training exercises in support of national and regional contingency planning objectives. The FOSC may request assistance directly from SUPSALV. Formal requests are routed through the Chief of Naval Operations.

5200 Scientific Support

5201 National Oceanic and Atmospheric Administration (NOAA):

NOAA provides scientific support for response and contingency planning in coastal and marine areas, including assessments of the hazards that may be involved, predictions of movement and dispersion of oil and hazardous substances through trajectory modeling, and information on the sensitivity of coastal environments to oil and hazardous substances. In addition, NOAA provides expertise on living marine resources and their habitats, including endangered species, marine mammals, and National Marine Sanctuaries.

5201.1 Scientific Support Coordinators (SSC):

NOAA may provide information regarding various scientific and technical subject matters. As does the ERT primarily for the EPA, NOAA's SSCs offer a wide variety of expertise, primarily to

the USCG FOSCs. NOAA has mathematicians and physicists who can provide computer modeling and simulation studies, research and planning groups that can determine resources at risk and recommend techniques for cleanup, an environmental science group that can provide technical assistance regarding chemical identification and degradation of oil, a biological assessment group that can perform long-term studies and planning, and an information management group that can produce computerized maps.

The SSC, in accordance with the National Contingency Plan, will provide the FOSC scientific advice with regard to the best course of action during a spill response. The SSC will help facilitate consensus from the Federal Natural Resource Trustee Agencies and provide spill trajectory analysis data, information on the resources at risk, weather information, tidal and current information, etc. The SSC will be the point of contact for the Scientific Support Team from National Oceanic and Atmospheric Administration's (NOAA) Hazardous Material Response and Assessment Division. The SSCs Guide for FOSCs outlines all of the products and services the NOAA SSC can provide for planning and response activities.

5201.2 Shoreline Cleanup Assessment Technique (SCAT):

The NOAA SSC can also provide training and technical expertise with SCAT. The Shoreline Assessment Manual updated August, 2013 by NOAA/HAZMAT, outlines methods for conducting shoreline assessment after an oil spill. The results of the assessment can be used to guide shoreline cleanup activities and determine, "How clean is clean?"

5201.3 National Weather Service (NWS):

NWS is a federal organization within NOAA, can provide various types of support to an IC/UC operating in the PR/USVI area.

5202 U.S. Department of Health and Human Services (HHS):

HHS through the Agency for Toxic Substance and Disease Registry (ATSDR), serves the public by using the best science, taking responsive public health actions, and providing trusted health information to prevent harmful exposures and disease related to toxic substances. The ATSDR is directed by congressional mandate to perform specific functions concerning the effects on public health of ***hazardous substances*** in the environment. These functions include public health assessments waste sites, health consultations concerning specific hazardous substances, health surveillance and registries, response to emergency release of hazardous substances, applied research in support of public health assessments, information development and dissemination, and education and training concerning hazardous substances. Public Health Technical Specialists from the HHS Centers for Disease Control and Prevention (CDC) and ATSDR can assist with environmental health support.

5203 The National Institute for Occupational Safety and Health (NIOSH):

NIOSH provides national and world leadership to prevent work-related illness, injury, disability, and death by gathering information, conducting scientific research, and translating the knowledge gained into products and services, including scientific information products, training videos, and recommendations for improving safety and health in the workplace.

In response to requests from workers (or their representatives), employers, and other government agencies, NIOSH Health Hazard Evaluation scientists conduct workplace assessments to determine if workers are exposed to hazardous materials or harmful conditions and whether these exposures are affecting worker health. NIOSH evaluates the workplace environment and health of employees by reviewing records and conduction on-site environmental sampling, epidemiologic surveys, and medical testing.

See the NIOSH Pocket Guide for information.

5204 Department of the Interior (DOI):

The U.S. Department of Interior (DOI) has jurisdiction over the National Park System, National Wildlife Refuges, fish hatcheries, and public lands. The Regional Environmental Officer (REO) manages the department's response programs for oil and hazardous materials spills and oversees the department's responsibilities as a trustee for natural resources. Trustee responsibilities include devising and carrying a plan for restoration, rehabilitation, or acquisition of equivalent natural resources and to carry out damage assessments.

5204.1 U.S. Fish and Wildlife Service (USFWS):

The Secretary of the Interior acts as trustee for resources managed or protected by DOI Bureaus, including USFWS and Bureau of Reclamation (USBR). USFWS, an office within DOI, is responsible for management of migratory birds, federally listed endangered and threatened species, and inter-jurisdictional fishes within Puerto Rico and The U.S Virgin Islands.

When a spill occurs, the appropriate USFWS office(s)—in Puerto Rico and The U.S. Virgin Islands —will provide timely advice on measures necessary to protect wildlife from exposure, as well as priority and timing of such measures. Protective measures may include preventing the oil from reaching areas where migratory birds and other wildlife are located, or deterring birds or other wildlife from entering areas by using wildlife hazing devices or other methods.

If exposure of birds and other wildlife to oil or hazardous substances cannot be prevented, an immediate decision will be made regarding rescue and rehabilitation of "oiled" birds and other wildlife. USFWS has statutory responsibilities for protecting migratory birds and federally listed threatened and endangered species. In such cases, the USFWS would serve as the lead administrative trustee, coordinating with other trustees and providing oversight of a qualified wildlife responder. If an incident does not involve migratory birds or federally listed threatened or endangered species, a State Natural Resource Trustee may serve as the lead agency.

Decisions to rescue and rehabilitate "oiled" wildlife must be made in conjunction with other federal and state natural resource agencies. Wildlife rehabilitators will need federal and state permits to collect, possess, and band migratory birds and threatened/endangered species.

5204.2 U.S. Geological Survey (USGS):

USGS maintains expertise in water quality characterization, oil fingerprinting, submerged oil and oil-particle formation, transport and resuspension of oil in fresh waters, riverine two-dimensional (2D) particle transport/hydrodynamic simulations, ecotoxicology, time-of-travel studies for

freshwater systems, as well as geospatial data collection of visible spill plumes applicable to spill response events in freshwater environments. In addition, USGS can provide biological survey assistance for natural resources and contaminants, and contribute distribution information about sensitive species (e.g., birds, invertebrates). USGS also provides extensive expertise and information for NRDA (e.g., aerial surveys, abundance estimation, remote sensing, etc.).

5205 U.S. Department of Agriculture (USDA):

The U.S. Department of Agriculture (USDA) has scientific and technical capability to measure, evaluate, and monitor, either on the ground or by use of aircraft, situations where natural resources including soil, water, wildlife, and vegetation have been impacted by hazardous substances and other natural or man-made emergencies. The USDA may be contacted through the U.S. Forest Service emergency staff officers who are the designated members of the RRT.

USDA maintains trusteeship of national forest, wilderness areas, and wildlife within USDA-controlled forests, archaeological sites, range and farm lands, fisheries, and lands enrolled in the Wetlands Reserve Program. Additionally, the USDA plays a key role in the closing and re-opening of fisheries before, during, and after clean-up operations.

5206 Department of Defense (DoD)/U.S. Army Corps of Engineers (USACE):

The Secretary of the DoD has trusteeship over the natural resources on all lands owned by DoD or the Army, including lands and facilities managed by the U.S. Army Corps of Engineers (USACE), Navy, Air Force, and Defense Logistics Agency. These lands include military bases and training facilities, research and development facilities, and munitions plants. USACE has trusteeship over natural resources under its jurisdiction, custody, or control. USACE land-holdings include national research and development laboratories, facilities, and offices.

5207 Department of Transportation (DOT):

The U.S. Department of Transportation (DOT) provides response expertise pertaining to transportation of oil, or hazardous substances, by all modes of transportation. Through the Pipeline and Hazardous Materials Safety Administration (PHMSA), DOT-PHMSA offers expertise in the requirements for packaging, handling, and transporting regulated hazardous materials.

5300 Scientists and Academia

5301 Science and Technology Advisors (S&T Advisors):

S&T Advisors consist primarily of academia, represent specialized capabilities to provide knowledge, based on science and other technical experience, to supplement and strengthen that of the incident management team (IMT).

The advisory capability may consist of individuals or institutions and may be identified during preparedness or by incident-specific needs. The relationship may be as informal as a list of names and contact information in a directory, or more formal pre-spill relationship defined through letter of agreement.

5400 Multi-Agency Response and Planning Groups

5401 Regional Response Team (RRT-2) and PR and USVI AC:

The functional role of RRTs in each federal region has two principal components. One component is the standing team whose duties involve communications systems and procedures, planning, coordination, training, evaluation, preparedness, and related matters within each RRT's respective region. The second component of the RRT is an incident-specific team that may be assembled, as determined by the operational requirements of a response to a specific discharge or release. The RRT has responsibility for developing an RCP and for assisting the FOSC when guidance, coordination, or resources are needed to provide an adequate response to an incident. The RRT includes a representative from each state within the federal region, and representatives from 15 federal agencies available to provide assistance or resources during such a response. EPA and the USCG co-chair the RRT, which does not respond directly to the scene, but instead responds to developments and requests from the FOSC in accordance with the PR and USVI ACP. RRT-2 normally holds semiannual meetings in spring and fall of each year.

5500 Other Technical Experts

5501 Certified Marine Chemist (CMC):

The United States Coast Guard and the Occupational Safety and Health Administration require that a certificate issued by a Marine Chemist must be obtained before hot work or fire producing operations can be carried out in certain spaces aboard a marine vessel.

In complying with both the U.S. Coast Guard and OSHA regulations, the Marine Chemist applies the requirements contained in National Fire Protection Association Standard 306. NFPA 306, Control of Gas Hazards on Vessels, describes conditions that must exist aboard a marine vessel. A survey by the Marine Chemist ensures that these conditions are satisfied. In addition, a Marine Chemist is able to perform similar evaluations on other than marine vessels where an unsafe environment exists for workers, or hot work is contemplated on a system that might contain residues of a flammable or combustible product or materials. See the following for a list of certified Marine Chemists: National Fire Protection Association (NHPA) Certified Marine Chemists.

5502 Sampling Specialists:

The Sampling Technical Specialist is responsible for providing a sampling plan for the coordinated collection, documentation, storage, transportation, and submittal to appropriate laboratories for analysis or storage.

5503 Water Sampling Technical Specialist:

The water sampling technical specialist is an advisor responsible for helping to create the water sampling and analysis plans, including the Initial Incident Characterization Sampling and Analysis Plan, and any needed updates throughout the response based on the sampling results. The Water

Sampling Technical Specialist is responsible for monitoring the progress of sample analysis at the designated laboratory and making arrangements for receipt of data.

5504 Community Air Monitoring Coordinator:

The community air monitoring (CAM) Coordinator leads the CAM efforts during emergencies in order to measure, identify, and quantify airborne contaminants, and use these results as a baseline to facilitate fact-based decisions made by officials, ultimately safeguarding human health and the environment.

5505 National Guard Civil Support Teams (CSTs):

CSTs were created in 1999 to respond to terrorist incidents involving WMD, as well as other disasters and catastrophic events, both natural and man-made. There are 57 CSTs located throughout the United States, with at least one in each state and territory.

The mission of a CST is to support civil authorities at a domestic CBRNE (Chemical, Biological, Radiological, Nuclear, and high-yield Explosives) incident site with responsibilities such as identification and assessment of hazards, advice to civil authorities, and facilitating the arrival of follow-on military forces during emergencies and incidents.

CSTs normally operates as a state asset, under the command and control of the state governor, but upon deployment, the unit provides direct support to a civilian Incident Commander (IC). CSTs support local emergency responders (Fire, Police, and EMS), as well as state and federal agencies such as the DOE, FBI, EPA, and FEMA.

5506 Marine Firefighting:

See Puerto Rico and U.S. Virgin Islands Marine Firefighting Contingency Plan, Annex A.

5600 Legal and Investigative Support

Many federal, state, and local governmental agencies work together during pollution incidents which involve a law enforcement situation. Federal, state, and local agencies have both distinct and complementary jurisdictions; coordination is extremely important. Investigators from Federal and state agencies will not normally be a part of the Unified Command.

5601 Department of Justice (DOJ):

The U.S. Department of Justice (DOJ) can provide expert legal advice on complicated legal questions arising from discharges or releases and federal agency responses. The DOJ represents the federal government, including it agencies, in litigation relating to discharges.

5602 Federal Bureau of Investigation (FBI):

The FBI, under the DOJ, is the lead federal agency for responding to threats from weapons of mass destruction (WMD). The Bureau investigates and collects intelligence on WMD-related threats and incidents to prevent attacks and respond to them when they occur. WMD Directorate

(WMDD) is part of the FBI's National Security Branch. The WMDD leads the FBI's efforts to mitigate threats from chemical, biological, radiological, nuclear, or explosive weapons. The WMDD provides leadership and expertise to domestic and foreign law enforcement, academia, and industry partners on WMD issues. The FBI approaches these issues through four major areas: preparedness, countermeasures, investigations/operations, and intelligence.

5603 U.S. EPA Criminal Investigations Division (EPA CID):

The Criminal Investigation Division (CID) investigates allegations of criminal wrongdoing prohibited by various environmental statutes. Such investigations involve, but are not limited to, the illegal disposal of hazardous waste; the export of hazardous waste without the permission of the receiving country; the illegal discharge of pollutants to a water of the United States; the removal and disposal of regulated asbestos containing materials in a manner inconsistent with the law and regulations; the illegal importation of certain restricted or regulated chemicals into the United States; tampering with a drinking water supply; mail fraud, wire fraud, conspiracy and money laundering relating to environmental criminal activities. CID Special Agents are sworn federal law enforcement officers with statutory authority to conduct investigations, make arrests for any federal crime, and to execute and serve any warrant.

5604 U.S. Coast Guard Legal:

The Seventh Coast Guard District has a legal staff that's available to provide support to the USCG FOSC. Additionally, and as needed, USCG Atlantic Area and headquarters can provide legal assistance to the USCG FOSC.

5605 U.S. Coast Guard Investigative Service (CGIS):

CGIS Agents are available to investigate criminal violations of environmental laws enforced by the Coast Guard. CGIS should be notified and consulted regarding all cases that may be referred to the Department of Justice for criminal prosecution. CGIS Agents are trained criminal investigators who are familiar with the legal issues associated with prosecution of a criminal case. Additionally, CGIS Agents regularly work with agents of other Federal, State, and local law enforcement agencies and frequently become aware of violations of environmental laws and ongoing criminal investigations through these sources.

Unless expressly directed by the Chief of CGIS or higher authority, CGIS will not conduct an environmental crime investigation in a COTP zone without first notifying and, thereafter, coordinating with the COTP. Likewise the COTP should avoid committing the Coast Guard to participate in criminal investigations, either solely or in coordination with other enforcement agencies, without first consulting the District Commander who will ensure appropriate coordination with CGIS. In the event exigent circumstances require the initiation of a criminal investigation before such notification or consultation can occur, the required communication must occur as soon as practical thereafter.

5606 National Transportation Safety Board (NTSB):

The National Transportation Safety Board is an independent federal agency dedicated to promoting aviation, railroad, highway, marine, pipeline and hazardous materials safely.

Established in 1967, the agency is mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The Safety Board makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

In accordance with the CG/NTSB MOU and 46 C.F.R. 4.40-15(b), the NTSB shall conduct the investigation of certain major marine and public/nonpublic vessel casualties. Except for the preliminary investigation, a separate Coast Guard casualty investigation will not be conducted, nor will parties in interest be designated by the Coast Guard. Although these investigations are conducted by the NTSB in accordance with their procedures, the Coast Guard will participate fully as a party.

6000 Response Protocols

This segment of the ACP provides information outlined within Subpart D of the NCP, 40 C.F.R. 300.300. Response protocols are guidelines for the response community to ensure success in meeting all legal and statutory requirements before, during, and upon completion of an oil discharge or hazardous substance release incident. The NCP (40 C.F.R. 300.317) lists three broad national response priorities:

- Safety of human life
- Stabilizing the situation
- Use of all necessary containment and removal tactics in a coordinated manner

Note: These national priorities do not preclude the consideration of other priorities that may arise on a site-specific basis. Although removal actions will primarily consist of mechanical means, e.g., boom, skimmers, etc., Subpart J of the NCP (Use of dispersants and other chemicals) provides additional techniques for consideration to mitigate oil discharges.

6100 Initial Reporting, Notifications, and Preliminary Assessment

The National Response Center (NRC) is the national communications center for handling activities related to response actions. The NRC acts as the single point of contact for all pollution incident reporting. Notice of an oil discharge or release of a hazardous substance in an amount equal to or greater than the reportable quantity must be made immediately in accordance with the CWA and CERCLA under 33 C.F.R. part 153, Subpart B, and 40 C.F.R. part 302, respectively. Notification shall be made to the NRC Duty Officer, HQ USCG, Washington, D.C. [telephone (800) 424-8802]. All notices of discharges or releases received at the NRC will be relayed immediately by telephone to the appropriate predesignated FOSC. Notifying state offices does not relieve the responsible party from federal requirements to notify the NRC or vice versa.

6101 Preliminary Assessment:

The FOSC shall, to the extent practicable, collect pertinent facts about the discharge or release, such as its source and cause; the identification of potentially responsible parties; the nature, amount, and location of discharged or released materials; the probable direction and time of travel of the discharged or released materials; the pathways to human and environmental exposure; the potential impact on human health, welfare, and safety and the environment; the potential impact on natural resources and property that may be affected; priorities for protecting human health and welfare and the environment; and appropriate cost documentation. These efforts shall be coordinated with other appropriate Federal, State, local, and tribal agencies. The FOSC also shall promptly notify the appropriate trustees for natural resources of discharges or releases that are injuring or may injure natural resources under their jurisdiction.

6102 Cleanup Assessment Protocol:

When discharged oil contaminates shoreline habitats, responders must survey the affected areas to determine the appropriate response. Although general approvals or decision tools for using shoreline cleanup methods can be developed during planning stages, responders' specific cleanup recommendations must utilize field data on shoreline habitats, type and degree of shoreline contamination, and spill-specific physical processes. Cleanup endpoints must be established early so that appropriate cleanup methods can be selected to meet the cleanup objectives. There are several tools hosted by NOAA to include:

Characteristics of Coastal Habitats: Choosing Spill Response Alternatives for oil spills, Characteristics of Response Strategies: A Guide for Spill Response Planning in Marine Environments, as well as the American Petroleum Institute (API) report on Tidal Inlet Protection Strategies (TIPS).

Shoreline surveys must be conducted systematically because they are crucial components of effective decisions. Also, repeated surveys are needed to monitor the effectiveness and effects of ongoing treatment methods (changes in shoreline oiling conditions, as well as natural recovery), so that the need for changes in methodology, additional treatment, or constraints can be evaluated.

NOAA's Shoreline Assessment Manual outlines methods that can be used to plan and conduct shoreline assessment after an oil spill; and can then be incorporated into assessment results of the UC's decision-making process for shoreline cleanup. The Shoreline Assessment Job Aid is a supplement to the manual. It contains visual examples of many of the terms you would use during shoreline assessments. In addition to these tools, the NOAA SSC also remains a valuable resource to help coordinate shoreline cleanup assessments and establish the shoreline cleanup protocols.

6200 General Hierarchy of Response Priorities

The NCP establishes three priority levels for the dedication of emergency oil spill response resources: protection of human health and safety, protection of environmental resources, and protection of economic resources. Response protocols also set in place to ensure the established priorities are met during an incident.

6201 Safety:

As noted in the priorities outlined in the NCP, the health and safety of the responders and the general public are of primary importance. To ensure that this priority is successfully met each and every time, personnel involved in oil spill response activities must comply with all applicable worker health and safety laws and regulations. The primary federal safety regulations for responders were established by the Occupational Safety and Health Administration (OSHA) and can be found in 29 C.F.R. 1910.120; these set the safety standard for hazardous waste operations and emergency response. Incidents also may pose threats to those communities where the response has occurred, creating significant health safety threats which must be addressed as part of the response.

6202 Priority Identification and Protection Strategies:

Environmental resources at risk are identified in the Geographic Response Strategies (GRSs) / Plans (GRPs), and Fish and Wildlife and Sensitive Environments Plan (FWSEP), Environmental Sensitivity Index (ESI) maps are also a good resource for determining environmental priorities and can be downloaded from this NOAA website in various formats. Per 40 C.F.R. 300.210(c)(3)(i), ACPs shall include areas of special economic or environmental importance that might be damaged by a discharge; these areas are identified in Section 3000, Geographic Information of this volume.

6203 Risk Assessment for Sensitive Area Prioritization:

The initial response is focused on minimizing impacts through the strategic objectives of:

- Stopping the Source,
- Containment,
- Recovery, and
- Protection of Sensitive Areas.

In a pollution event, sensitive area protection prioritization should be determined by three considerations: (1) which sites are at risk (how soon the oil product will get to each sensitive site); (2) the predefined hierarchy of protection priorities; and (3) the time and response resources available to implement a specified protection strategy. Responders should not assume that sensitive locales equidistant from the source of a spill are at equal risk from the oil.

For the purpose of prioritization, "risk" is defined as "the probability of discharged oil reaching the vicinity of a sensitive site of concern." This means that the urgency to protect key resources is first determined by the likelihood that it will be impacted in the near future and mobilization time for requisite response staff and equipment (Can the sites at risk be protected by available resources before oil arrives?). If the sites are too numerous to protect with the response resources available within projected times of impact, then triage of protection follows as the prescribed general hierarchy as identified for a specific area in the GRSs/GRPs.

6204 Environmentally Sensitive Areas and Consultations:

During a response, all of the appropriate environmentally sensitive areas will be referenced and a determination will be made as to which areas will be directly affected, which areas could potentially be affected, and which areas have no threat of being affected. The previously referenced GRSs/GRPs will be used for guidance taking into account any special response considerations that will need to be addressed. Additionally, when threatened and endangered species, designated critical habitat or historical/cultural properties may be affected by response actions, consultations with the appropriate agencies must be initiated.

6205 Wildlife Rescue & Recovery:

The protection, rescue, and recovery of impacted wildlife during a response requires close coordination with those individuals and entities which have the expertise, authority, and equipment to safely and successfully execute it. This complex and high visibility operation is conducted by the Wildlife Branch within a Unified Command structure.

6206 Aligning Natural Resource Damage Assessment (NRDA) with Response:

Under OPA and CERCLA and various state statutes, Responsible Parties (RPs) are liable for damages for injury to, destruction of, loss of, or loss of use of, natural resources from a chemical release or oil discharge and damages from the response to the release or discharge (or substantial threat of discharge). The measure of damages includes the cost to restore, rehabilitate, replace, or acquire the equivalent of the injured natural resource; the decline in value of resources pending restoration; and the reasonable cost of assessing the damages. Designated federal, state, and tribal natural resource trustees (NRDA Trustees) are responsible for assessing damages through the Natural Resource Damage Assessment (NRDA) process.

As described by the U.S. Coast Guard Incident Management Handbook (2014), NRDA activities generally do not occur within the structure, processes, and control of the Incident Command System (ICS). However, given that NRDA activities usually overlap those of the response, a plan for coordination and cooperation between the two efforts is necessary.

6300 National Incident Management System (NIMS) Protocol

The PR and USVI Area Committee will manage spill incidents in accordance with the NIMS version of the Incident Command System (ICS). The Coast Guard Incident Management Handbook (IMH) is designed to assist Coast Guard personnel in the use of the NIMS ICS during response operations and planned events. This handbook outlines specific details related to NIMS ICS, including position job aids, forms, and other information to guide responders during an event.

6301 Unified Command (UC):

When appropriate, a UC shall be established consisting of, at a minimum, the FOSC, SOSC, and the RP's IC. The UC can be established "virtually" as deemed necessary. The UC structure allows for a coordinated response effort, which takes into account the federal, state, local, and RP concerns and interests when implementing the response strategy. A UC establishes a forum for open, frank discussions on problems that must be addressed by the parties with primary responsibility for response operations. **Note:** NIMS ICS also provides for local and/or tribal

representation within the UC. As such and at a minimum, consideration should be given to expand the UC to accommodate local and/or tribal interest during a particular response.

6302 Federal Preemption:

The FOSC has the ultimate authority in a response operation and will only exert this authority, consistent with the NCP, if the other members of the unified command are not present or are unable to reach consensus quickly.

6303 Responsible Party:

Each responsible party for a vessel or a facility from which oil is discharged, or which poses a substantial threat of a discharge, into or upon the navigable waters, adjoining shorelines, or the Exclusive Economic Zone of the United States, is liable for the removal costs and damages specified in OPA. Any removal activity undertaken by a responsible party must be consistent with the provisions of the NCP, the Regional Contingency Plan (RCP), this Area Contingency Plan, and the applicable vessel or facility response plan as required by OPA. If directed by the Unified Command at any time during removal activities, the responsible party must act accordingly.

6304 Responsible Party Plan Requirements:

Facility and tank vessel response plan regulations, including plan requirements for the Coastal Zone, are located in 33 C.F.R. 154 and 33 C.F.R. 155 respectively, 30 C.F.R. 254 for Off-shore facilities, and 49 C.F.R. 194 for Pipelines. Facility response plan regulations for the inland zone are located in 40 C.F.R. 112.

6305 Responsible Party Notifications:

When an oil spill or hazardous substance is released, the RP is required to notify the National Response Center (NRC) at (800) 424-8802. Specific responsibilities and requirements for the RP during a pollution incident can be found in the NCP, 33 C.F.R. 154 Subpart F, and 33 C.F.R. 155 Subpart D.

6306 Incident Command Post:

When a UC is established (beyond a "virtual UC") to manage a multi-day response, an Incident Command Post (ICP) shall be established as near as practicable to the spill site. All responders (federal, state, tribal, local, and private) should be incorporated into the response organization at the appropriate level.

6307 Common Operating Picture:

The Common Operating Picture (COP) provides visual up-to-date response information so the UC can make informed decisions on the effectiveness of response strategies and future operations. The Coast Guard has adopted NOAA's Environmental Response Management Application (ERMA) as the platform to display a COP during a response. ERMA is a viewer that pulls real-time and static data to display a single interactive map. Generally speaking, RPs will provide their own COP, but ERMA can be used in conjunction with other platforms to make it easy for users to

visualize an active environmental situation or long-term case assessment. **Note: Internet Explorer is not compatible with ERMA. Please use Google Chrome or Microsoft Edge**.

6308 Volunteers:

In times of crisis or trouble, many citizens feel compelled to help or lend their assistance and expertise to the response effort. This help can be welcome if the demands of an incident exceed the available resources or if a particular set of skills are in short supply. Volunteers can support response efforts in any number of ways such as by conducting beach surveillance, providing logistical support, or assisting in the treatment of impacted wildlife. The decision to employ volunteers will take into account the benefits that might be gained weighed against safety and liability realities. The UC, in the early stages of the event, will make the decision whether volunteers will be employed and in which capacity they can serve. For more details about the use of volunteers, please refer to the National Response Team's Use of Volunteers Guidelines for Oil Spills.

6309 Public Information:

Considering the high level of environmental awareness in many communities, any pollution incident is likely to generate interest from the public and the media. The public's perception of a response's success or failure is often determined early on in the response; this makes the need to provide the public with timely, accurate information critical. For smaller responses these efforts can be managed by a Public Information Officer or appropriate Branch Chief; however, large, more complex events will require the establishment of a Joint Information Center (JIC) to manage information access and flow. For more information, please refer to the National Response Team's (NRT) Joint Information Center.

6400 Oil Spill Containment and Cleanup

The goal of most oil containment and recovery strategies is to collect the spilled oil from the water and prevent it from reaching sensitive resources. Frequently, this is not possible and sensitive resources are oiled in spite of response efforts, especially during large oil spills. Often the goal will be to minimize environmental impact using a variety of booming, containment, and recovery techniques.

6401 Containment:

As oil escapes containment, it becomes increasingly difficult to recover. Inevitably oil does escape containment, and additional measures must be included to deal with the escaping oil. This is particularly necessary where oil booming is subjected to winds, waves, and strong currents; oil entrains or is splashed over boom. To counter oil escapement, deployments should include preplanning to anticipate and control escapement.

Before discharged oil can be effectively recovered, the spreading of the oil must be controlled and the oil contained in an area accessible to oil recovery devices. Generally, discharged oil is contained using oil containment boom. Typical boom has a flotation section that provides a barrier on and above the water surface and a skirt section that provides a barrier below the surface. The

physical dimensions of the boom to be used for a particular spill will be dependent on local conditions. In the open water, it may be necessary to use a boom that is several feet tall. In a protected marsh, a boom that is only a few inches tall may be appropriate.

There are limitations on the effectiveness of any boom. Oil will be lost if the conditions are such that there is splash-over from breaking waves. Oil will also be carried under the boom skirt (entrainment) if it is deployed in such a way that currents cause the oil to impact the boom with a velocity perpendicular to the boom of greater than 0.7 knots. Once a boom has been deployed, it may be necessary to reposition it due to changing tides and currents. It is desirable to have personnel available to readjust the boom as required. In all cases of boom deployment, consideration must be given to protecting the safety of those involved in the activity.

Hard/Containment booming is used to prevent spreading and to concentrate the oil so it can be skimmed or vacuumed. Factors that need to be considered are: type and size of boom required for weather, winds, tides, and currents in the vicinity of potential spill areas; the type of deployment vessel needed; the amount of boom needed for effective containment and available skimming capabilities. Fixed or natural anchor points should be selected.

Sorbent booming is useful when the amount of oil is minimal, when tides and currents are light, or when shorelines require protection. Heavier oil can be recovered using absorbent (oil "sticks" to the boom) and lighter fuels generally are recovered using adsorbents (sausage, sweep, or diapers). Sorbent booming can also be used as a backup for other types of booming to recover product that may have entrained past the primary barrier.

6402 Shoreline Protection Options:

Coral reefs are among the world's most complex and biologically diverse marine ecosystems and are increasingly threatened by pollution and other human activities. Coral reefs are directly impacted by marine-based pollution. Leaking fuels, anti-fouling paints and coatings, and other chemicals can leach into the water, adversely affecting corals and other species. Due to the fragile nature of this ecosystem, this habitat type was given a Class A priority.

In 2000, Congress enacted the Coral Reef Conservation Act (CRCA) for the protection and management of coral reefs which included appropriations and authorities to NOAA and establishment of the US Coral Reef Task Force. Two species of coral in the Area Committee's AOR have been added to the Endangered Species List. Additional response guidance can be found in the Caribbean Regional Response Team Information and Lessons Learned during Emergency Response Operations for Vessel Groundings over Coral Reefs.

Any actual, suspected, or potential damage to these corals require immediate notification to NOAA for impact assessment and consultation. Individuals should notify the Sector San Juan Command Center with the specific location and damage. The Command Center will then release a Coral Natural Resource Trustee Incident Report to all concerned so that the event can be investigated.

Predicted Oil Impacts to Coral:

- Most quantities of oil, typical cargoes to Sector San Juan AOR, should remain near the surface of the water with little or no immediate danger to deeper water colonies. Depth of water is a critical component to exposure.

- Corals that are spawning at the time of an oil spill, however, can be damaged because the eggs and sperm, which are released into the water at very precise times, remain at shallow water depths for various times before they settle. Thus, in addition to compromising water quality, oil pollution can disrupt the long-term viability and reproductive success of corals, rendering them more vulnerable to other types of disturbances. Timing of a spill is also a critical component to exposure.

- Excessive silting in shallower water may occur due to heavy response boat traffic causing potential suffocation of polyps.

- Excessive damage can occur from multiple booming anchors in vicinity of coral colonies.

Recommendations during spill response:

- While coating of oil upon any part of a coral will kill the affected area, physical cleaning will induce additional damage due to the fragile nature of the species and therefore is not advised.

- Protective and diversion booming may be the best option to prevent potential oiling.

- Consult with NOAA SSC and/or Environmental Unit for incident specific strategies and tactics.

6402.1 Vegetated River Banks:

Vegetated riverbanks occur as grassy herbaceous vegetation or trees that grow along the riverbanks to the water's edge. They may occur in fresh or brackish water systems and may be subject to flooding, depending on the slope of the bank. A variety of plant species may be found along the riverbanks dependent on a number of factors such as the salinity of the river, steepness of the bank, degree of flooding, and exposure to current. Due to the large numbers and diversity of native plant and animal species, the difficulty of cleaning these areas, and the possibility of freshwater contamination, this habitat type was given a Class A priority.

Predicted Oil Impacts:

- Small quantities of oil will cover outer edges of the area; however, large quantities of oil may penetrate the sediment and coat the vegetation.

- Biological impacts may be great if oiling is heavy. Freshwater could be affected.

- The area/extent of surface oiling will also be affected by boat wakes and tides. Oil may persist for several months or years if not cleaned.

Recommendations for Cleaning:

- High-energy areas may be cleaned naturally, particularly if oiling is light.
- Low pressure spraying may be effective.

6402.2 Salt Marsh and Mangrove Swamp:

These highly productive marshes typically occur near inlets and along the rivers. The predominant plants are cord grass, turtle grass, and rushes. Numerous species of wading birds, waterfowl, fishes, and invertebrates inhabit the marshes. Shellfish harvesting areas are often located within salt marshes. Salt marshes provide protection for many commercially important juvenile fish.

These estuarine systems are characterized by mangroves and extensive sea grass beds, in addition to cord grass and rushes. These marshes support the greatest number of nesting birds, shorebirds, and hawks. Numerous species of fish have been cataloged in this region.

Predicted Oil Impacts:

- Vegetation would become coated by oil, heavy oil may cause smothering;
- Persistence may be long term because of difficulty in cleaning;
- Water-soluble toxic fractions of oil may penetrate sediments;
- High degree of biologic stress to mangroves and contamination of food chain.

Recommendations for Cleaning:

- Generally cleaning is not recommended and may cause additional physical damage to the marsh.

6402.3 Sea Grass Beds:

Sea grass meadows are one of the most important biological communities. Sea grasses are highly productive and are a major basis for inshore food chains. Their physical structure provides living space and protection from predation for a variety of organisms. Sea grass beds are essential nursery and feeding grounds for many marine organisms, especially commercial and recreationally important species and endangered manatee and sea turtles. Sea grasses stabilize sediments and play a key role in nutrient cycling.

Large areas of shallow (<1 m) sea grass meadows occur in Sector San Juan water bodies. The most abundant species is shoal grass (Halodule wrightii). Other sea grass species occurring in the plan area are manatee grass (Syuringodium filiforme), widgeon grass (Ruppia maritima), star grass (Halophila engelmanni), paddle grass (Halophila decipiens), and turtle grass (Thalassia testudinum).

Predicted Oil Impacts:

- Oiling of sea grass blades would result in blade defoliation as well as loss of sea grass and algal production, habitat and food for marine organisms. Recovery could take 6 to 12 months. The greatest impact to grasses would occur during low tide.

- Heavy or weathered oil could sink and smother grass beds.

- Oil has toxic effects (lethal and sublethal) on invertebrates and fishes inhabiting grass beds. Juvenile forms are most vulnerable. The greatest toxic effects occur in shallow (<1 m) grass beds.

- Oiling of sediments impact sea grass rhizomes and roots (below ground plant tissues) and infauna. This is likely to occur if oil sinks. Potential effects: below ground sea grass mortality; infauna mortality; productivity loss; sediment destabilization; and habitat destruction. Effects are greatest in shallow grass beds. Recovery time is at least 1 to 2 years, likely more.

Recommended Response Activities:

- Prevent oil from entering grass beds.

- Care should be taken to not scar grass beds with boat propellers involved in response activities.

- Extreme care should be taken to not disturb sediments during cleanup activities; this could result in the complete loss of grass bed.

- Clean up efforts onshore (e.g., water washing/flushing) should not result in deposition of oiled sediments into grass beds.

- Before and during cleaning, responders must evaluate if cleaning activities will be more detrimental to the bed than actual oiling.

- Oiled Intertidal or Exposed Grass Beds: Do not clean oiled grass blades; blades will slough off naturally. If oil is on sediment surface, remove by vacuum or hand. Minimize disturbance and removal of sediment and below ground sea grass.

- Sunken Oil in Submerged Grass Beds: Remove from grass bed manually or by vacuum. Minimize disturbance and removal of sediment and below ground sea grass.

- Attention should not be focused on the incidental removal of above ground grass (blades, shoots) during cleanup; these will slough off naturally.

6402.4 Freshwater Marshes and Swamps:

Freshwater marshes occur in the floodplains of the major rivers in the Sector San Juan AOR and associated tributaries. Marshes are characterized by emergent herbaceous plants, fluctuating water levels, and recurring fires. Typical plant species include pickerelweed, maidencane, saw grass, cord grass, and rushes. Marshes are also important breeding grounds for all classes of vertebrates,

particularly reptiles and amphibians dependent on the wetland resources. Freshwater marshes perform other functions such as flood control, freshwater storage areas, fisheries production, and recreation.

Freshwater Swamps are distinguished from marshes by the abundance of trees and are wooded wetlands. River swamps are thought to be the most biologically diverse type of swamp, providing food, cover, and nesting areas for a number of animals. Benthic invertebrates such as clams, snails, and insect larvae inhabit swamps, as do numerous fish which may be rare or endangered.

Predicted Oil Impacts:

- Oil would be persistent because of the low flushing of freshwater marshes and swamps.
- Oil may cling to the vegetation further reducing natural cleaning; high mortality for resident animals.
- Vegetation may be seasonally sensitive with dormant vegetation being less sensitive than blooming and seeding plants. Freshwater supplies may be contaminated by small amounts of oil.

Recommendations for Cleaning:

- Consider burning in freshwater marsh; it is a fire-adapted community.
- Manual cleaning from boat.
- Avoid any activity that mixes oil into sediment.
- Natural recovery recommended for light oiling.

6402.5 Shellfish Harvesting Areas:

In addition to the economic value of lobsters, shrimp, and other shellfish, mollusks provide habitat and food for a variety of other estuarine organisms. Oysters spawn from late spring to early fall in estuarine areas. The larvae of oysters require a solid substrate, and generally utilize existing colonies for attachment. Oysters are filter feeders and rely on algae and suspended and dissolved organic matter for sustenance.

Predicted Oil Impacts:

- Most oyster reefs are inter-tidal and would be coated with oil during ebb tides.
- Oysters are in danger of smothering from silting of sediments suspended in the water column.
- Large economic losses predicted if oiling occurs in shellfish harvesting areas.

Recommendations for Cleaning:

- Do not use clean-up methods that stir up bottom sediments or mechanically damage oyster reefs.

- Natural cleaning is probably the best approach; however, responders may consider low pressure cold wash.

6403 On-Water Recovery:

Open-water recovery includes using skimmers on oil slicks and netting systems for tar balls and highly viscous oils. Skimming of uncontained slicks can consist of either self-propelled skimming vessels or towed skimmer units. Storage capability and time needed to offload are very important considerations in determining the effectiveness of oil on-water recovery operations.

Frequently, skimming is the only option in areas with very strong currents and water that are too deep to anchor booms. Skimmers are most effective on thick slicks or areas such as convergence zones where the oil tends to accumulate naturally in thicker concentrations. If the spilled oil emulsifies, skimmer performance usually decreases significantly.

In areas of shallow water or strong currents, it may be possible to collect or corral the oil and bring it to deeper water, or low-current, areas that have better skimmer access and higher recovery rates.

For spills where the oil is highly viscous or has formed tar balls, netting systems may enhance oil recovery. Using technology adapted from the fishing industry, a net is either moored or towed, allowing the oil to be collected and recovered.

The On-Water Recovery Group is responsible for managing water recovery operations per the Incident Action Plan.

Responsibilities include:

- Direct the delivery, deployment, and operation of skimmers or other oil recovery equipment.

- Provide a field status of on-water removal operations to the OSC.

- Maintain estimates of product recovered.

- Identify field conditions related to the effectiveness of skimming operations.

- Identify logistics support needs for skimming operations.

- Ensure recovery and holding containers operate efficiently.

6404 High Current Environments:

To be successful, most containment and skimming systems must encounter oil at speeds of less than one knot. Typically, skimmers are operated in conjunction with containment boom. If oil encounters the boom/skimming system with a perpendicular velocity greater than 0.7 knots, the

oil will carry under the boom and be lost. Therefore, the most important consideration for skimming in high currents is to keep the speed of the skimming system below one knot relative to the water's surface.

As a basic example: A skimmer pointed upstream in a 5-knot current would actually be proceeding downstream or backwards at 4 knots to keep its velocity relative to the water's surface at 1 knot. Gauging a skimmer's velocity relative to the water's surface can be somewhat difficult. Often the most reliable method is for the skimmer operator to closely monitor the skimming system. They should look for signs of oil entrainment as well as ensuring the integrity of the containment system. As current speeds change so must the speed of the skimmer. The skimmer monitoring can be aided by using a helicopter with an observer. The observer can tell if oil is being lost by the skimmer as well as direct the skimmer to the best skimming location.

Boom is often deployed in front of the skimmer forming a V, thus directing oil into the skimmer. The practice increases the area being covered by the skimmer. Ideally, this V should be as wide as possible. In high currents, as the V width is increased, the speed of the oil encountering the boom perpendicularly is increased.

Oil will spread more quickly in the direction of the current flow; skimmers should operate in an upstream and downstream orientation. The oil slick will be elongated in the direction of the currents. Skimmers will encounter the most oil as they proceed upstream and downstream within the slick. Operating back and forth across stream and across the slick will result in sub-optimal recovery efficiency.

6405 Near-shore/Shallow Water:

Oil recovery techniques and equipment are different in near-shore/shallow water locations than open water. Shallow draft vessels and smaller boom and skimmers are used in these situations. These vessels can maneuver into tight places behind and under wharfs or in sloughs and can actually skim next to shore in many near-shore locations.

Strategies for near-shore cleanup can differ depending on the depth of the water and the location. Near-shore operations, within a bay or inlet, will also require shallow draft vessels, workboats, and skimmers. However, the vessels may only be operable at high tide. At or near low tide, the operation may evolve into a shoreline cleanup operation. Any boom towing boats or skimmers must be able to withstand going aground without sustaining major damage.

6406 Non-floating Oil Recovery and Protection:

Non-floating oil that is spilled and transported subsurface either remains suspended in the water column or is deposited on the seabed, usually after interaction with suspended sediments or sand. Different strategies for containing these oils can depend on the location of the oil.

The recovery of sunken oil has proven to be very difficult and expensive because the oil is usually widely dispersed. Several of the most widely used recovery methods are manual removal, pump and vacuum systems, nets and trawls, dredging, and onshore recovery.

6407 Shore-side Recovery and Natural Collection Points:

There are predictable locales where recovery efforts can be optimized at shorelines. There are two situations where oil collection should be vigorously attempted at the shoreline:

- Places where oil naturally collects at the shoreline because of winds and currents;
- Diversion and capture of oil as it flows past or along the shoreline and locations with low environmental sensitivity.

Oil is a substance that spreads primarily in two dimensions on the water's surface while water moves in three dimensions; oil will spread thin, but it will also accumulate at predictable locales; it will accumulate wherever water has downward currents, such as tide rips along mud flats and at windward coves. Responders are encouraged to also consider barge staging areas in the vicinity of a response for collection/pocketing of oil.

6408 Disposal:

It is the responsibility of the OSC to ensure that any recovered oil or hazardous substance is disposed of properly once cleanup has occurred. The Resource, Conservation and Recovery Act and its implementing regulations contained in Title 40, Code of Federal Regulations are quite specific in defining what is hazardous waste and how it should be handled and disposed. Also, state permit(s) for disposal of any solid waste will need to be granted/issued prior to removal from collection points. 40 CFR 261, Subpart C lists the characteristics a substance must exhibit to be considered hazardous.

In the event of a significant spill, the nearest designated facility, or several facilities, if necessary, would be utilized as the recommended staging area for segregation and stockpiling of debris, unless a suitable commercial or private facility is available and preferred by the RP or if the spill debris can be staged in the immediate vicinity of the spill affected area, such as on the beach above high water.

Puerto Rico prohibits the disposal any and all oil/hazardous materials in municipal landfills. The RP and the FOSC during the spill cleanup operations must coordinate and plan for the proper debris collection and segregation, to the extent possible, into categories of waste disposal methods. As much of the waste debris, as can be determined, will be directed to appropriate facilities for disposal. The remaining debris will be sent to the selected staging area(s) for further characterization and storage, while additional waste disposal options are being reviewed.

6409 Terminating Cleanup Operations:

When to terminate specific oil spill cleanup actions can be a difficult decision; when is clean, clean enough? The increasing cost of the cleanup and the damage to the environment caused by cleanup activities must be weighed against the ecological and economic effects of leaving the remaining oil in place. The decision to terminate cleanup operations is site-specific.

Cleanup usually cannot be terminated while one of the following conditions exist:

- Recoverable quantities of oil remain on water or shores;

- Contamination of shore by fresh oil continues;
- Oil remaining on shore is mobile and may be refloated to contaminate adjacent areas and near shore waters;

Cleanup may normally be terminated when the following conditions exist:

- The environmental damage caused by the cleanup effort is greater than the damage caused by leaving the remaining oil or residue in place;
- The cost of cleanup operations significantly outweighs the environmental or economic benefits of continued cleanup;
- FOSC, after consultation with the members of the Unified Command, determines that the cleanup should be terminated.

6500 Funding

6501 Source of Pollution Response Funding (Oil):

The Oil Spill Liability Trust Fund (OSLTF) is a billion-dollar fund established as a funding source to pay removal costs and damages resulting from oil spills or substantial threats of oil spills to navigable waters of the United States. The OSLTF is used for costs not directly paid by the responsible party (RP). The fund is also used to pay costs to respond to "mystery spills," for which the source has not been identified. The OSLTF was established by Section 311(k) of the Federal Water Pollution Control Act (FWPCA) and is administered by the U.S. Coast Guard's National Pollution Funds Center (NPFC). In the event of an oil spill an FOSC, state, claimant, or trustee can obtain access to these federal funds through the processes outlined below.

6502 Source of Pollution Response Funding (HAZMAT):

An MOU between the USCG and Environmental Protection Agency (EPA) authorizes the USCG to access the Hazardous Substance Trust Fund (Superfund) when it undertakes response activities pursuant to the *Comprehensive Environmental Response, Compensation, and Liability Act (*CERCLA). A USCG FOSC has the authority to approve the expenditure of these funds to prevent or mitigate immediate and significant harm to human life or health or to the environment from the release or potential release of hazardous substances. The process through which a USCG FOSC access these funds will be outlined below (FOSC Access to the Federal Funds). The NPFC is responsible for the administration of the USCG's portion of the Superfund, while the EPA retains overall responsibility for fund's general administration.

6503 FOSC Access to Federal Funds:

When federal actions are authorized by the Clean Water Act or CERCLA, the OSLTF or the Superfund may be accessed to fund them. A USCG FOSC uses the NPFC's Ceiling and Number Assignment Processing System (CANAPS) to establish and manage a Funding Project Number (FPN) for an oil spill or a CERCLA Project Number (CPN) for a HAZMAT incident. These lines

of accounting provide the funding necessary to carry out the FOSC's response actions. The NPFC works with USCG's Finance Center (FINCEN) to create the accounting line, and directly coordinates with the FOSC to ensure that the funds are utilized and accounted for appropriately. For specific guidance regarding the administration of a FPN or a CPN, refer to the "Procedures for Accessing the Funds" as well as the "CANAPS User Guide" in the NPFC User Reference Guide.

6504 Funding Authorizations for Other Agencies:

Federal, state, local, and tribal governments assisting the FOSC during a response may receive reimbursable funding through a Pollution Removal Funding Authorization (PRFA). The NPFC can be consulted regarding PRFAs, but authorization to establish and use this funding source is provided by the FOSC. The decision to use another agency to help in the response must be documented in writing (to include what is required and why it is needed) and should be agreed to and signed by both the RP and FOSC. After the PRFA has been approved by the FOSC, the other agency is required to follow the same cost documentation procedures used by the FOSC. If additional or an increase in funding is required, the request must be made to the FOSC. For more information about PRFAs please refer to NPFC User Reference Guide.

6505 Military Interdepartmental Purchase Request:

When an FOSC makes the determination that a DoD asset or DoD resources are necessary to conduct a response (i.e., SUPSALV), a Military Interdepartmental Purchase Request (MIPR), vice a PRFA, must be established. For more information about establishing a MIFR please refer to NPFC Technical Operating Procedures - Chap 5 (MIPR).

6506 State Access to the OSLTF for Immediate Removal or Prevention Costs:

The Oil Pollution Act of 1990 (OPA) allows state Governors to request payment of up to $250,000 from the OSLTF for removal costs required for the immediate removal of a discharge of oil or prevention of a substantial threat of a discharge of oil. Requests are made directly to the FOSC who will determine eligibility. If a state anticipates the need to access the OSLTF, they must submit a request which shall include the person's name, title, address, telephone number, and the capacity in which they are employed. FOSCs will provide initial coordination of the request and subsequent coordination and oversight. For more information about a state's access to the OSLTF please refer to Technical Operation Procedures for State Access to the OSLTF.

6507 Federal Trustee Access to the OSLTF

OPA provides access to the OSLTF by Trustees for the purpose of conducting a Natural Resource Damage Assessment (NRDA). Federal trustees are recognized as the:

- Department of the Interior,
- Department of Commerce,
- Department of Agriculture,
- Department of Defense, and

- Department of Energy.

Executive Order 12777 introduced the concept of a Federal Lead Administrative Trustee (FLAT) in an effort to provide a focal point for addressing natural resource issues associated with a specific incident. The NPFC will only accept requests for initiation of a NRDA from, and normally work directly with, the designated FLAT. For purposes of requests for initiating funding for a NRDA, State and Tribal Trustees must work through a FLAT. When a request for a NRDA has been made, the NPFC Natural Resource Damage Claims Division will then assign a claims manager to coordinate the approval process. Together, the NPFC Natural Resource Damage Claims Manager and the FLAT will execute a request and authorization for obligation of funds through an Inter-Agency Agreement (IAA). For more information about the process of initiating a Natural Resource Damage Assessment (NRDA) and for the regulations and procedures for making a natural resource damage (NRD) claim please refer to NPFC Natural Resource Damage Claims.

6508 Local and Tribal Government Access to the Superfund:

Local and federally recognized tribal governments may request reimbursement of cost to carry out temporary measures to protect human health and the environment without a contract or cooperative agreement. All costs for which local governments are seeking reimbursement must be consistent with the NCP and Federal cost principles outlined by the Office of Management and Budget. Reimbursements are limited to $25,000 per hazardous substance response. In addition, reimbursement must not supplement local government funds normally provided for emergency response. States are not eligible for reimbursement from the Superfund, and no state may request reimbursement on behalf of political subdivisions within the state.

The EPA will make all decisions regarding recovery of expenditures from the Superfund. All agencies expending Superfund money must submit an itemized account of all funds expended in accordance with provisions of contracts, Interagency Agreements (IAG), or Cooperative Agreements with EPA. These agreements must be in place prior to the expenditure of funds. For more information on the Local Government Reimbursement (LGR) program please refer to EPA Local Government Reimbursement Program.

6600 Documentation and Cost Recovery

6601 National Contingency Plan Documentation Requirements:

Maintaining a thorough and complete record of response actions and expenditures is a critical element to any successful response. Keeping a thorough record aids in the recovery of costs and can be used to generate best management practices and lessons learned as well as support the restoration of natural resource injuries. The National Contingency Plan outlines broad documentation and cost recovery requirements and can be found in 40 C.F.R. 300.315. During significant and protracted pollution responses, the FOSC is encouraged to mobilize one of the USCG's Type 1 Documentation Unit Leaders to oversee all facets of incident-related documentation.

6602 Cost Documentation Procedures:

Costs generated against the fund during a response will be paid by the NPFC through the line of accounting established by the FPN or CPN. Upon completion of the response, the NPFC will seek to recover those costs from the Responsible Party. Only through careful documentation of those costs and expenditures is cost recovery possible; this makes maintaining a detailed cost documentation process a critical part of any response. For specific information on cost documentation requirements and cost recovery procedures, please refer to the NPFC Technical Operating Procedures for Incident and Cost Documentation.

6700 Compensation/Claims

6701 Claims against the OSLTF:

Claimants (individuals, corporations, and government entities) can submit claims for uncompensated removal costs or certain damages (natural resources, real/personal property, loss of profits, loss of subsistence use of natural resources, loss of government revenues, and increased cost of government services) caused by an oil spill to the NPFC if the Responsible Party for the discharge does not satisfy their claim. The NPFC adjudicates claims and pays those with merit.

The Responsible Party can submit claims to the NPFC provided that:

- The total of all response costs and damage claims exceed the Responsible Party's statutory limit of liability; or
- The spill was solely caused by a third party, an Act of God, or an Act of War.

The categories of uncompensated losses covered by the OSLTF are:

- Removal costs,
- Real or personal property damages,
- Loss of profits or earning capacity,
- Loss of subsistence,
- Loss of government revenues,
- Cost of increases public services, and
- Damages to natural resources.

Generally, claims for all costs and damages resulting from an oil pollution incident must be presented first to the Responsible Party or its guarantor. The guarantor is typically the Responsible Party's insurer. For more information about the claims process, please refer to the NPFC Claimant Guide.

6702 Damage Assessment Procedures:

The National Oceanic and Atmospheric Administration (NOAA) published a final rule to guide trustees in assessing damages to natural resources from discharges of oil. The rule provides a blueprint that enables natural resource trustees to focus on significant environmental injuries, to plan and implement efficient and effective restoration of the injured natural resources and services, and to encourage public and responsible party involvement in the restoration process.

Under the rule, the natural resource damage assessment (NRDA) process is divided into three phases:

- Pre-assessment: The trustees evaluate injury and determine whether they have the authority to pursue restoration and if it is appropriate to do so;
- Restoration Planning: The trustees evaluate and quantify potential injuries and use that information to determine the appropriate type and scale of restoration actions; and
- Restoration Implementation: The trustees and/or responsible parties implement restoration, including monitoring and corrective actions.

This process is designed to rapidly restore injured natural resources and services to the condition that would have existed had the spill not occurred and to compensate the public for the losses experienced from the date of the spill until the affected natural resources and services have been recovered. For more information about this process please refer to NOAA NRDA Process.

6800 Hazardous Substance Response

6801 Introduction:

This segment of the ACP provides general guidelines for initial response actions necessary to abate, contain, control, and remove the released material and describes some of the unique issues associated with a hazardous substance release. Hazardous substance response is outlined within Subpart E of the NCP, 40 C.F.R. 300.400. Subpart E establishes methods and criteria for determining the appropriate extent of response authorized by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and Clean Water Act (CWA) section 311(c). These include:

- When there is a release of a hazardous substance into the environment; or
- When there is a release into the environment of any pollutant or contaminate that may present an imminent and substantial danger to the public of the United States.

The release of hazardous substances is unique compared to an oil spill in that hazardous substances have a greater potential to impact human health. In general, oil spills are of great concern due to their potential to cause long term damage to the environment. Oil spills do not routinely pose an immediate threat to human life. On the contrary, hazardous substance releases can pose an immediate danger to humans when released in even the smallest quantities.

The definition of hazardous substance is: Any substance designated as such by the administrator of the EPA pursuant to the Comprehensive Environmental Response, Compensation, and Liability

Act (42 U.S.C. Sec. 9601 et seq.), regulated pursuant to Section 311(c) of the federal Clean Water Act (33 U.S.C. Sec. 1321 et seq.).

The definition of harmful quantity is: A quantity of a hazardous substance the release of which is determined to be harmful to the environment or public health or welfare or may reasonably be anticipated to present an imminent and substantial danger to the public health or welfare by the Administrator of the EPA pursuant to federal law.

6802 Environmental Support to the FOSC:

In the event of a Spill of National Significance or pollution incident which poses a threat to public health, local, state, and national health public officials shall be notified.

6900 Disaster Response and Recovery Guidance

6901 The National Response Framework and Natural Disaster Recovery:

The National Response Framework (NRF) is a guide which provides foundational emergency management doctrine for how the Nation responds to all types of incidents. The NRF is built on scalable, flexible, and adaptable concepts identified in the National Incident Management System (NIMS) to align key roles and responsibilities across the Nation. The structures, roles, and responsibilities described in this framework can be partially or fully implemented in the context of a threat or hazard, in anticipation of a significant event, or in response to an incident. Implementation of the structures and procedures described herein allows for a scaled response, delivery of specific resources and capabilities, and a level of coordination appropriate to each incident.

The Secretary of Homeland Security is responsible for coordinating federal operations within the United States to prepare for, respond to, and recover from terrorist attacks, major disasters, and other emergencies when any of the following four conditions applies:

- A federal department or agency acting under its own authority has requested DHS assistance;
- The resources of state authorities are overwhelmed and federal assistance has been requested under the Stafford Act;
- More than one federal department or agency has become substantially involved in responding to the incident; or
- The Secretary has been directed to assume incident management responsibilities by the President.

Some federal agencies with jurisdictional authority and responsibility may participate in the Unified Command at the Incident Command Post (ICP). Several federal agencies have independent authorities to declare disasters or emergencies within federal lands and properties. These authorities may be exercised concurrently with or become part of a major disaster or emergency declared under the Stafford Act.

The NRF is often activated in anticipation of a storm event (tropical storm or hurricane) or following some unforeseen natural disaster (flooding event, tornados, etc.). Pollution response, under the umbrella of the NRF is possible using plans, capabilities, and partnerships forged in accordance with the National Contingency Plan (NCP), combined with the effective use of the Incident Command System (ICS).

Other useful natural disaster response resources include the NRT Abandoned Vessel Authorities and Best Practices Guidance and the National Response Framework's Emergency Support Function (ESF) #10 – Oil and Hazardous Materials Response.

7000 Equipment

7100 Oil Spill Removal Organizations (OSROs)

The Oil Pollution Act of 1990 (OPA 90) amended the Federal Water Pollution Control Act (FWPCA) to require the preparation and submission of response plans by the owners or operators of certain oil-handling facilities and for certain oil-carrying tank and non-tank vessels (referred to here as plan holders). These plan holders are required to submit response plans which identify and ensure either by contract or other approved means (i.e., Letter of Intent), the availability of private personnel and equipment necessary to remove a worst case discharge (WCD), including a discharge resulting from fire or explosion, and to mitigate or prevent a substantial threat of such a discharge.

The system for assembling, mobilizing, and controlling response resources is extremely complex; in order to meet statutory requirements, each plan holder must identify how they intend to accomplish these tasks. The U.S. Coast Guard created the voluntary OSRO classification program so that plan holders could simply list OSROs in their response plans rather than providing an extensive, detailed list of response resources. If an OSRO is ***classified*** by the U.S. Coast Guard, it means their capacity has been determined to be equal to, or greater than, the response capability necessary to ensure plan holder compliance with the statutory requirements. A more in depth discussion of the classification program can be found here: USCG OSRO Guidelines

7101 OSRO Classification and the Response Resource Inventory (RRI) Database:

As part of maintaining their classification, OSROs must provide detailed lists of their response resources to the Response Resource Inventory (RRI) database. The National Strike Force Coordination Center (NSFCC) administers this database along with the OSRO classification program. The RRI database is the backbone of the classification program, and its capabilities are two-fold: a classification element and an inventory function. The classification element of the RRI database compliments the Facility Response Plan and Vessel Response Plan development and review processes by systematically classifying OSROs' response capabilities to meet the plan holders' response capability requirements. An OSRO's classification levels (Maximum Most Probable Discharge and Worst Case Discharge Tiers 1, 2, & 3) are based on its ability to meet time delivery requirements for containment boom, temporary storage capacity, and skimmer capacity. Once entered into the system by the OSRO, the RRI database translates the information into an estimated daily recovery capacity (EDRC) that determines an OSRO's level of classification for

each of the six various operating areas (Rivers/Canals, Great Lakes, Inland, Nearshore, Offshore, and Open Ocean) in a particular COTP zone.

The inventory function of the RRI database makes a great deal of information available to response and contingency planning personnel; it not only outlines the locations and amount of "core equipment" (boom, skimmers, temporary storage), but includes other important support equipment including vessels, dispersant application platforms, aerial oil tracking capabilities, and personnel. In order to access the inventory functions of the RRI database, administrator login privileges are required. These privileges are issued by the NSFCC and are limited to members of the U.S. Coast Guard and those OSRO members designated by their company to maintain the equipment inventory. To make a request for administrative login privileges contact the NSFCC at: Contact NSFCC for RRI Administrative Access.

7102 Classified OSRO listings for Sector San Juan:

The NSFCC maintains a portion of the RRI database that allows all interested parties (no administrative access required) open access to reports about a company's Mechanical, Dispersant, Marine Fighting and Salvage, and Non-Floating Oil classifications. This site also provides a point of contact report (listed by name/company number) for all the OSROs in the United States. The mechanical classification reports can be viewed by company name, by USCG District, or by COTP zone and outline which operating environments the classification has been granted (Rivers/Canals, Nearshore, Open Ocean, Inland, etc.) and for which volume of discharge. To see which OSROs are classified within the Sector San Juan COTP zone, please refer to: RRI Classification and POC Reports site.

7200 Basic Ordering Agreements and the National Pollution Funds Center User Reference Guide

7201 Basic Ordering Agreements (BOAs):

The U.S. Coast Guard's Director of Operations Logistics (DOL), Office of Procurement and Contracting (DOL-9) Contingency and Emergency Support Division (DOL-92) maintains a list of pre-established emergency response contracts known as BOAs. These contracts are established with OSROs around the country and are available for use at any time by a USCG Federal On-Scene Coordinator (FOSC). DOL-92 negotiates the terms and rates of these contracts ahead of time, enabling an OSRO to be quickly hired to provide pollution response services when the FOSC needs to conduct oil removal or hazardous substance response operations under the National Contingency Plan. While an FOSC always has the option to exercise a BOA contract, this does not preclude the hiring or contracting of a non-BOA pollution response service provider, should the FOSC deem it necessary. DOL-92 contracting officers are available 24/7 to support the FOSC.

7202 National Pollution Funds Center's (NPFC) User Reference Guide:

The NPFC User Reference Guide is designed to serve as a reference tool during an oil discharge or hazardous substance release when the Federal On-Scene Coordinator (FOSC) is providing oversight or conducting response operations under the National Contingency Plan. This guide includes all relevant Federal regulations, technical operating procedures (TOPs), forms and sample

letters, and other documentation designed to make funding of recovery operations and the recovery of Federal expenditures as efficient and easy as possible. This guide is available to all interested parties and can be found at: NPFC User Reference Guide.

7300 Oil Spill Response Cooperatives and Consortiums

N/A

8000 Alternative Response Technologies

8100 Chemical Countermeasures

While mechanical recovery will typically be the most widely used response option, there are several other tools available to mitigate oil spills. The National Contingency Plan (NCP) directs that RRTs and Area Committees address, as part of their planning activities, the desirability of using certain alternative response technologies when removing or controlling oil discharges.

8101 Dispersants:

Dispersants are specially designed oil spill control products that are composed of detergent-like surfactants in low toxicity solvents. Dispersants do not remove oil from the water but instead, break the oil slick into small droplets, allowing these droplets to disperse into the water to be further broken down by natural processes. Dispersion of oil into the water column occurs naturally in untreated spills; dispersants speed up this process. Dispersants also prevent the oil droplets from coming back together as another surface slick. Dispersed oil is less likely to stick to birds and other animals, shoreline rocks, and vegetation. The effects of the rapidly diluted dispersed oil must be weighed against the effects of that oil if it were allowed to impact the shoreline and wildlife. Dispersant use for spill control is regulated by Subpart J of the NCP (40 CFR 300.900).

NCP Subpart J also requires the EPA to prepare a schedule of dispersants and other chemicals, if any, that may be used in carrying out the NCP. Dispersants approved for use under this ACP are any of those listed in the NCP Product Schedule (40 CFR 300.910).

Pre-Approval Protocol

As outlined in CRRT's *Use of Dispersants in the Caribbean* policy, CRRT has provided preauthorization in specific zones and expedited approval procedures in other areas for the use of dispersants. This policy divides the AC AOR into three zones:

- Green Zone = preauthorization for dispersant application
- Yellow Zone = waters requiring case-by-case approval
- Red Zone = exclusion zone

In general, pre-authorization exists 0.5 miles seaward of Puerto Rico and 1.0 miles seaward of the U.S. Virgin Islands providing the water depth is at least 60 feet in depth.

Major aspects of the Dispersant Policy are summarized in the following matrix:

Chemical Countermeasures Pre-Approval Policy for CRRT	
Reference: *Use of Dispersants in the Caribbean* Policy	
Green Zone	The Green Zone is defined as any offshore water in which **ALL** of the following three conditions apply: **For Puerto Rico**: 1) the waters are not classified with a "Yellow" or "Red" zone; 2) the waters are at least 0.5 miles seaward of any shoreline; and, 3) the waters are at least 60 feet in depth. **For U.S. Virgin Islands**: 1) the waters are not classified with a "Yellow" or "Red" zone; 2) the waters are at least 1.0 miles seaward of any shoreline; and, 3) the waters are at least 60 feet in depth. Within the Green Zone the decision to apply dispersants rests solely with the pre-designated USCG-OSC, and no further approval, concurrence or consultation on the part of the USCG-OSC with EPA, DOC, DOI or the States is required. All dispersant operations within the Green Zone will be conducted in accordance with the protocols outlined in this policy.
Yellow Zone	The Yellow Zone is defined as any waters within the CRRT which have not been designated as a "Red" zone, and in which **ANY** of the following conditions apply: **For Puerto Rico**: 1) Waters designated as marine reserves, National Marine Sanctuaries, National or State Wildlife Refuges, or proposed or designated Critical Habitats; 2) Waters within 0.5 miles of a shoreline; 3) Waters less than 60 feet in depth; or 4) Waters in mangrove or coastal wetland ecosystems, or directly over coral communities which are in less than 60 feet of water. Coastal wetlands include submerged algal beds and submerged sea grass beds. **For U.S. Virgin Islands**: 1) Waters designated as marine reserves, National Marine Sanctuaries, National or State Wildlife Refuges, or proposed or designated Critical Habitats; 2) Waters within 1.0 miles of a shoreline; 3) Waters less than 60 feet in depth; or

	4) Waters in mangrove or coastal wetland ecosystems, or directly over coral communities which are in less than 60 feet of water. Coastal wetlands include submerged algal beds and submerged sea grass beds. If the USCG-OSC believes dispersants should be applied within the Yellow Zone, a request for authorization must be made to the CRRT representatives of the EPA, affected State(s), DOC, and DOI. The information contained on the documentation/application form in the policy must be provided to the CRRT members. The FOSC is only granted authority to conduct dispersant operations in the Yellow Zone when concurrence has been given by EPA and the affected State(s), and after consultation with DOC and DOI. EPA, the State(s), DOC and DOI must respond to the FOSC request for authorization within four (4) hours. If a decision cannot be reached within four hours, the FOSC is to be notified and informed of the delay. Once authorized, application of dispersants within the Yellow Zone will be conducted in accordance with the protocols outlined in Section III.
Red Zone	The Red Zone includes those areas designated by the CRRT where dispersant use is prohibited. No dispersant application operations will be conducted at any time in the Red Zone unless: 1) Dispersant application is necessary to prevent or substantially reduce a hazard to human life; and/or 2) An emergency modification of this Agreement is made on an incident-specific basis. **The CRRT has not currently designated any waters of Puerto Rico as Red Zones but retains the right to include areas for exclusion in the future**. **For the U.S. Virgin Islands the following areas have been designated as Red Zones**: 1) Waters of the Virgin Islands National Park including waters one mile seaward from the park boundary. 2) Waters of the Buck Island Reef National Monument including waters one mile seaward from the park boundary.

8102 Burning Agents (In-Situ Burn):

In-situ burning means the controlled burning of oil "in place." Burning oil will remove larger quantities of oil from the water's surface and in a shorter period of time than any other response countermeasure. However, it will only work when the oil layer is relatively thick (greater than 3 mm) and fresh.

The National Contingency Plan, Section 300.910, authorizes the FOSC, with the concurrence of the EPA representative to the CRRT and, as appropriate, the concurrence of the territory representative to the CRRT with jurisdiction over navigable waters threatened by the discharge of oil, and in consultation with the DOC and DOI natural resource trustee, when practicable, to authorize the use of in-situ burning on a case-by-case basis. Refer to Section 4410.34 for additional guidance.

8103 Surface Washing Agents (SWAs):

SWAs are chemicals that are used to enhance oil removal from beach substrates and hard surfaces. They generally contain a mixture of a non-polar solvent and a surfactant. The solvent dissolves into the highly viscous or weathered oil to create a less viscous and somewhat uniform liquid oil or oily mixture. The surfactant reduces the interfacial tension between the liquid oil and the surface the oil has adhered to. Depending on environmental conditions and the combination of solvents and surfactants, the removed oil will either float or disperse. The latter may have a negative environmental impact, making SWAs with the "***lift and float***" characteristics generally preferable.

SWAs cannot be used unless they are listed on the NCP Product Schedule

8104 NCP Product Schedule:

Subpart J of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) directs the Environmental Protection Agency (EPA) to prepare a schedule of spill mitigating devices and substances that may be used to remove or control oil discharges; this is known as the NCP Product Schedule. The NCP Product Schedule lists the following types of products authorized for use on oil discharges: Dispersants, Surface Washing Agents, Surface Collecting Agents, Bioremediation Agents and Miscellaneous Oil Spill Control Agents. **Note**: Before any chemical countermeasure may be used, the FOSC must first seek RRT-2 approval through the consultation and concurrence process or have its use preauthorized. The only exception to this is when the FOSC uses the provision listed in 40 C.F.R. § 300.910(d).

8200 Alternative Response Technology Monitoring and Evaluation

8201 Special Monitoring of Alternative Response Technologies (SMART):

The Special Monitoring of Applied Response Technologies (SMART) protocols are a set of cooperatively designed monitoring standards utilized when conducting In-Situ Burn or Dispersant operations. SMART establishes a monitoring system for the rapid collection and reporting of real-time, scientifically based information, in order to assist the Unified Command (UC) with decision-making during In-Situ Burn or Dispersant operations. SMART recommends monitoring methods, equipment, personnel training, and command and control procedures that strike a balance between the operational demand for rapid response and the UC's need for feedback from the field.

Dispersants. When dispersants are applied to an oil slick, they break it into small droplets which then are mixed into the water column by the combined motion of the wind, waves, and currents. When making a dispersant application, the UC needs to know whether the operation is effectively dispersing the oil or not. The SMART dispersant protocols are designed to provide the UC with

real-time feedback on the efficacy of the dispersant application and consist of three different levels (or tiers) of monitoring. It should be noted that the SMART dispersant protocols may be useful for evaluating the dilution and transport of the dispersed oil, but they do not monitor the fate, effects, or impacts of the dispersed oil.

The three tiers of monitoring are Tier I, Tier II and Tier III. Tier I consists of visual observation by an observer to provide a general, qualitative assessment of a dispersant's effectiveness. Visual monitoring may also be enhanced by advanced sensing instruments, such as infrared thermal imaging or other like devices. However, sometimes a dispersant's effectiveness is difficult to determine by visual observations alone. Tier II protocols employ a monitoring team to confirm the visual observations by taking water samples and running them through a flourometic instrument while on-scene.

Tier III follows Tier II procedures, but also collects information on the transport and dispersion of the oil in the water column. This level of monitoring can help to verify that the dispersed oil is diluting toward background levels. Tier III is simply an expanded monitoring role and may include monitoring at multiple depths, the use of a portable water laboratory, and/or additional water sampling. It also can be moved to a sensitive resource (such as near a coral reef system) as either a protection strategy or to monitor for evidence of exposure.

In-Situ Burn (ISB). Air monitoring is an important component of any ISB operation. These measurements allow the FOSC to continuously evaluate air quality data, ensuring that human health and safety are safeguarded in real-time. Typical by-products from an in-situ burn include carbon dioxide, water vapor, soot (particulate matter), and other gaseous compounds. Of these, the soot, being comprised of very fine, carbon based materials, is responsible for a smoke plume's dark/black appearance and poses the greatest inhalation hazard.

The SMART protocols for air monitoring are used when there is a concern that the public or response personnel may be exposed to the hazardous components of the burning oil's smoke. These monitoring operations are conducted by one or more teams, depending upon the size of the operation. Each monitoring team uses a real-time particulate monitor capable of detecting the small particulates emitted by the ISB (ten microns in diameter or smaller), a global positioning system, and other equipment required for collecting and documenting the data. Each monitoring instrument provides an instantaneous particulate concentration as well as the time-weighted average over the duration of the data collection. The readings are displayed on the instrument's screen and stored in its data logger. In addition, the SMART protocols direct that particulate concentrations be logged manually every few minutes by the monitoring team in a recorder data log.

Monitoring teams are deployed at designated areas of concern to determine ambient concentrations of particulates before the burn starts. During the burn, if the team's instruments detect high particulate concentrations or if the time weighted averages approach or exceed pre-established levels, the information is passed to technical specialists within the UC for further review and possible action (i.e., personnel evacuation, termination of burn, etc.).

To review the complete set of SMART protocols for ISB and Dispersant operations, please refer to the Special Monitoring of Alternative Response Technologies (SMART).

8202 Alternative Response Tool Evaluation System (ARTES):

While actively mitigating the effects of an oil discharge or when engaging in the preparedness effort to do so, the FOSC has any number of mechanical or chemical countermeasures' use to consider. These responses or planning efforts can often generate interest within a local community, region, or even the nation. As this interest grows, members of the general public, companies, or sectors of industry can feel compelled to approach the FOSC to offer their non-conventional service or idea to help the response or preparedness effort. In these instances, the FOSC may be requested to consider using a non-conventional alternative countermeasure (a method, device, or product that hasn't been or isn't typically used for spill response). To assess whether a proposed countermeasure could be a useful response tool, it's necessary to collect and quickly evaluate information about it.

To assist an FOSC in evaluating the efficacy of a non-conventional alternative countermeasure, a process known as the Alternative Response Tool Evaluation System (ARTES) was developed. The ARTES is designed to evaluate potential response tools on their technical merits against established, consistent criteria either during an actual incident or during pre-spill planning. Using a series of forms which examine a proposed response tool and document its properties, a designated team can rapidly evaluate it and provide feedback to the FOSC with a documented recommendation regarding its use.

Under the ARTES framework, when it has been determined that it would be appropriate for a product to be evaluated, a vendor or supplier will complete and submit the Proposal Worksheet

(PWS); this form is designed to capture data about the product and once filled in, is provided to a review team for analysis and evaluation. (Click here for the PWS)

Once the vendor has filled out and submitted the PWS, it will then be reviewed by either one of two review teams depending upon whether the request for evaluation was being made during an actual spill response or during a period of pre-spill planning. The Response Tool Subcommittee (RTS) will conduct the review during a pre-spill planning effort, and the Alternative Response Tool Team (ARTT) does so during an actual incident. To document their review and evaluation of the product and the PWS, the review team will complete a Data Evaluation Worksheet (DEW). (Click here for the DEW)

Once the evaluation has been completed and documented on the DEW, the review team then will formulate their recommendation and document it on the Summary Evaluation Worksheet (SEW). The SEW captures the team's recommendation of whether or not the proposed response tool should be used and is provided to the FOSC, as well as to the initiator of the evaluation request (vendor). (Click here for the SEW)

It should be noted that that the FOSC need not wait for the ARTES recommendation when deciding whether or not to use a response tool. The ARTES is designed to help assist in the decision making process but does not limit or prevent an FOSC from using a product they deem necessary.

Completion of the ARTES evaluation does not mean that a product is pre-approved, recommended, licensed, certified, or authorized for use during an incident.

9000 Geographic Response Strategies (GRSs)/Plans (GRPs)

This Section serves as an efficient conduit to access existing GRSs/GRPs within this particular ACP planning area.

Although removal actions will primarily consist of mechanical means, (e.g., boom, skimmers, etc.), Subpart J of the NCP (Use of dispersants and other chemicals) provides additional techniques for consideration to mitigate oil discharges. Please see Section 8000 of this ACP for information on specific techniques and processes preauthorized within this ACP planning area.

9100 Purpose:

Area Committees are directed by OPA and the NCP to identify environmentally, socio-economic, and otherwise sensitive areas within their defined ACP planning area. These areas are often referred to as ***priority protection areas***. Although Area Committees have broad latitude to develop specific criteria for identification, there is general consistency throughout a particular territory.

Once priority protection areas are identified and adopted by the appointed members of the Area Committee, Area Committees have the flexibility to provide information that may be useful to ensure *appropriate strategies* are implemented during any oil removal operation. One methodology is often referred to as geographic response strategies (GRSs) or geographic response plans (GRPs). Response plans required by federal law or regulation associated oil exploration, production, transport, or storage (e.g., Oil Spill Response Plans, Vessel Response Plans, and Facility Response Plans), must ensure maximum protection of Area Committee identified priority protection areas.

9200 Scope:

Although GRSs/GRPs are developed and available for use during the planning and response phases, the IC/UC and OSROs must remain flexible and utilize on scene initiative and their experience and competence in determining actual pollution mitigation "tactics" for a particular incident. GRSs/GRPs are developed using neutral weather conditions and mean-average tidal data and assume an incident response location. The scenarios for a pollution incident are nearly limitless; every spill is different, and there are no absolutes. As a result, GRS/GRP locations should be reviewed and considered but with the understanding that incident-specific mitigation tactics will likely be developed and executed on scene. Factors such as current and projected winds, water currents/flows, tidal cycles, equipment limitations, bottom conditions, seasonal implications, exact incident location, potential hazards, and the type of oil can have a significant effect on any proposed strategy and should be carefully considered. **If applicable, modifications to any preplanned strategies should be expected**.

Refer to Sector San Juan Geographic Response Plan.

Area Contingency Plan Annexes

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U.S. Coast Guard
Sector San Juan

Marine Fire Fighting Contingency Plan for Puerto Rico and the U.S. Virgin Islands (Revision 30 October 2015)

COMMANDER
SECTOR SAN JUAN

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787-289-2040/41

SECTION 8000 MARINE FIRE FIGHTING PLAN TABLE OF CONTENTS

8101 Purpose and Objectives

Major marine firefighting incidents will likely require the coordinated efforts of federal, state, and local resources to carry out the level of response required. The purpose of this plan is to provide guidance to the Captain of the Port (COTP) and local fire agencies concerning fighting fires on vessels to ensure coordinated response to marine fires occurring throughout the Puerto Rico and United States Virgin Islands (USVI) region.

This regional contingency plan has the following major objectives:

1) To promote safety for first responders, protect lives and property within the ports communities of Puerto Rico and U.S. Virgin Islands;

2) Identify jurisdiction and clarify lines of authority and response during a response;

3) To secure a relationship among responsible federal, state, and local municipalities and commercial facilities so that resources may be employed to affect a swift, well coordinated response to vessel and waterfront fire emergencies.

8102 Scope

The Marine Firefighting Plan is prepared and maintained by USCG Sector San Juan. The data recorded in this Plan reflects input from the Puerto Rico Fire Department, Puerto Rico Emergency Management Agency (PREMA), Virgin Islands Fire Service and the Virgin Islands Territorial Emergency Management Agency (VITEMA) and encompasses all areas within the COTP San Juan Area of Responsibility (AOR).

8110 Definitions

CAPTAIN OF THE PORT (COTP): The Coast Guard officer designated by Commandant, USCG, to exercise federal responsibility for the safety and security of ports and waterways in a specific geographic area. For purposes of this Plan, COTP means COTP Sector San Juan.

DANGEROUS CARGO MANIFEST: The Dangerous Cargo Manifest (DCM) is a listing of all hazardous material cargo on a vessel and contains a great deal of information of interest to emergency response teams. Vessel information includes name, call sign, flag, port of loading/discharge, and date. Cargo information includes proper shipping name, gross weight of cargo, hazard classification, type of package, storage locations, and emergency response telephone number. Only hazardous materials subject to 49 CFR or the International Maritime Dangerous Goods (IMDG) code may be listed on the DCM.

EMERGENCY OPERATIONS CENTER: County and state run facilities with extensive inter-agency communications and coordination capabilities. It will be activated during significant emergencies such as a Level II fire as defined in this Plan.

FIRE CONTROL PLAN: A copy of this plan is prominently displayed in a weather tight enclosure, located outside the deckhouse (usually near the brow) for the assistance of shore side firefighting personnel. It contains a set of general arrangement plans showing, for each deck, the fire control stations, fire resistant and fire retardant bulkheads. It also contains particulars of the fire detection system, manual alarm, fire extinguishing systems, fire doors, means of access to different compartments, and ventilating systems including locations of dampers and fan controls.

HAZARDOUS MATERIALS: These are materials which, when commercially transported, are designated by the US Department of Transportation (DOT) as presenting an unacceptable risk to health, safety, and property. These materials are carried by vessel in accordance with US DOT or USCG regulations. Regulations applicable to the transportation of hazardous materials by vessel include:

- Title 49 CFR, Subchapter C (Packaged Materials)
- Title 46 CFR, Subchapter D (Tank Vessels)
- Title 46 CFR Subchapter O (Certain Bulk Dangerous Cargoes)

INTERNATIONAL SHORE CONNECTION: This device is used to connect the water system piping of the vessel with the water supply on the shore. International Code requires that the ship have a connection with the ship's fire system threads on one end and the international bolted flange on the other end. National Fire Code (NFPA 1405) requires the shore side fire department must have a connection with the shore side fire department's threads on one end and the international bolted flange on the other end.

MARINE CHEMIST: A person who is certified through the National Fire Protection Association (NFPA) to determine if enclosed spaces are Safe for Workers and Hotwork or other operational restrictions for overhaul after the fire has been extinguished. The Marine Chemist should also be consulted for any fires involving hazardous materials.

MARINE FIRE FIGHTING SUBCOMMITTEE's: Two subcommittees will be created, one for Puerto Rico and one for the U.S. Virgin Islands. The Puerto Rico subcommittee will be compromised of the Puerto Rico Fire Department, PREMA, members of the Area Committee and the USCG. The U.S. Virgin Islands Committee will be compromised of the Virgin Island Fire Service, VITEMA, and members of the Harbor Safety Committee and the USCG. These two sub committees will create workgroups that will enhance inter-agency coordination. Both committees will examine local policy issues and concerns regarding fire fighting in the Sector San Juan COTP area.

SAFETY DATA SHEET (SDS): The SDS is a chemical product information guide to be used if the product becomes a hazard because of a release, fire, or other unknown reaction. The SDS contains information as to the fire problems, health hazards, toxicity, and reactivity of the chemical or product for which the SDS was written. All chemicals and products for which chemicals were used in its manufacture must have an SDS sheet.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA): An international non-profit organization of technical experts established in 1896 to reduce the worldwide burden of fire hazards by providing codes and standards, research and education. Many of these codes and standards have been incorporated by reference into federal and local regulations. *NFPA 1405 – Guide for Land-based Fire Fighters Who Respond to Marine Vessel Fires* is referenced in this plan as the accepted practices to be followed when responding to marine fires in COTP San Juan AOR.

CARRIBEAN REGIONAL RESPONSE TEAM (CRRT): EPA and the Coast Guard co-chair the CRRT together with Industry and territory, as well as other federal government representation. The CRRT maintain an Area Contingency Plan (ACP) with planning, policy and coordinating strategies dealing with HAZMAT response and staging areas directly on scene. The CRRT can provide great assistance as requested by the On-Scene Coordinator during an incident.

SAFETY ZONE: A safety zone is a water area or a water/shore side area to which, for safety or environmental protection purposes, access is limited to authorize persons, vehicles or vessels. The safety zone is established by the COTP to protect vessels, structures, and shore areas. The safety zone can be fixed or mobile around a moving vessel. The COTP may direct who may operate within the safety zone.

SALVAGE COMPANY REPRESENTATIVE: A person or company who has been contracted to either assist in the firefighting effort or stabilize/recover the vessel following the fire for final disposition. The salvage representative may be contracted by the owner/operator of a vessel or a regulatory agency (local, territorial, federal) when the owner/operator has not responded in a timely manner. The agency decision to contract a salvor should be the function of a Unified Command.

SECURITY ZONE: Security zones are designated areas of land, water, or land and water established for such time necessary to prevent damage or injury to any vessel or waterfront facility to safeguard ports, harbors, territories, or water of the United States, or to secure the observance of rights and obligations of the United States. The security zone is established by the COTP or CG District Commander. The designation of a security zone may only be made for areas within the territorial limits of the United States.

STRIKE TEAM: A Coast Guard component comprised of highly trained professional cadre who maintain and deploy with specialized equipment and expertise to support Federal responses to pollution and salvage incidents. Puerto Rico resides in the Atlantic Strike Team zone home ported in Fort Dix, NJ.

8200 Authorities, Responsibilities, and Policy

8210 Federal Policy

The Coast Guard, under the provisions of the Port and Waterways Safety Act, has broad authority to prevent damage to, or the destruction/loss of any vessel, bridge or any other structure on or in the navigable waters of the United States. This includes land structures and shore areas immediately adjacent to those waters. This statute, along with the provision of 14 USC 88(b), provides authority for such assistance against fires as the Coast Guard may support with its available resources. This authority is exercised so as not to preempt other jurisdiction's or agency's fire fighting responsibilities. The Federal Fire Prevention and Control Act of 1974 (PL 93-498), declares that fire fighting is and should remain a state/territory local function. Fire departments in the location of a vessel or facility are responsible for fire suppression and are in charge of all firefighting efforts. Although the Coast Guard clearly has an interest in fires involving vessels or waterfront facilities, local authorities are principally responsible for maintaining the necessary fire fighting capabilities within U.S. ports and harbors and up to 3 NM from the coastline boundary as directed by the Governor or applicable county emergency operations center (EOC). The Oil Pollution Act of 1990 (OPA 90) mandates that owners and operators of vessels and Marine Transportation Related (MTR) facilities must identify response resources with fire fighting capability. 33 CFR Part 154 requires MTR facilities that do not have adequate fire fighting resources located at the facility or which cannot rely on sufficient local fire fighting capability must identify and ensure the availability of adequate resources within 24 hours. 33 CFR Part 155 requires that vessel owners and operators must identify commercial resources capable of deploying to the port within 24 hours. In order to fulfill its obligation, which cannot be delegated, the responsible fire department may request mutual aid assistance from neighboring communities and advice/logistical support for other agencies through its EOC. Paramount in preparing for vessel or waterfront fires is the need to integrate Coast Guard planning and training efforts with those of other responsible agencies, particularly local fire departments and port authorities. Sector San Juan COTP shall incorporate fire fighting contingency planning in each local port's response plan in accordance with this chapter.

8220 State Policy/ Puerto Rico

Article 3 of Law number 43 of June 21, 1988 (PR Fire Corps Regulatory Law) establishes the Puerto Rico Fire Department (PRFD) as the organization responsible for preventing and fighting fires. The Chief of the PRFD is appointed by the Governor and has the authority to employ the services, and coordinate the functions, of this organization.

Even though the term "marine fire" is not specifically used in Law 43, the PRFD recognizes the legitimate need to plan for and respond to fires in the marine environment. For this reason, the PRFD is taking part in the development of this plan so that federal, Commonwealth and municipal agencies respond jointly during a marine fire fighting function.

Based on mutual agreement and in recognition of the hazards of marine fires, the PRFD will assume necessary positions within the Unified Command structure organized to fight marine fires. Possible functions and responsibilities for the PRFD may include Fire Suppression Group (led by the Fire Department Chief) within the Emergency Response Branch. The PRFD will assure the development and maintenance of fire fighting capabilities within Puerto Rico ports and harbors.

Initial response operations will be the responsibility of the owner/operator of the vessel or facility. Owners and operators of vessels or facilities must develop their own contingency plans to respond to shipboard fires. The Commonwealth expects local municipalities to initially respond to the incident. The PRFD will be prepared to respond within the limits of their training and capabilities. If fire fighting personnel are not trained or capable of handling a shipboard fire, they will take appropriate measures to prevent the fire from spreading to nearby spaces. The PRFD recognizes that marine fires have many aspects that warrant special attention because of the unique environment encountered aboard a vessel.

8225 State Policy/ U.S. Virgin Islands

Under the Organic Act of 1954, the Government of the Virgin Islands is the elected head of the USVI Government. The authority to combat marine fires has been delegated to the Virgin Islands Fire Service (VIFS).

The VIFS shall act as the **Fire Suppression Group** within the Unified Command Structure. The responding Fire Department Chief will act as the Fire Suppression Group Supervisor and shall report to the Emergency Response Branch Director (or directly to the Operations Section Chief in the Absence of the Emergency Response Branch Director). The VIFS shall be relied upon to combat fires on shore facilities, vessels in port, or anchored in the bays of the U.S. Virgin Islands. The VIFS is responsible for maintaining the necessary fire fighting capabilities within USVI ports and harbors. Coordination and assistance from other agencies remain under the Governor's control.

The VIFS has determined that it has enough mobile units to combat a fire from shore. However, for a significant incident, the VIFS will need to procure additional fire fighting resources, particularly foam.

The availability of fire fighters is not an issue for the VIFS. However, in the event that hazardous materials (HAZMAT) are involved, the VIFS will require assistance. The VIFS and VITEMA need to identify other sources of trained personnel. They may be from other government agencies, such as DPNR and the Virgin Island Ports Authority, or from commercial sources, such as WICO.

The Virgin Islands Territorial Emergency Management Agency (VITEMA) is charged with providing coordination of a unified marine fire fighting response. VITEMA's goal is to coordinate and organize all other Federal, State, Municipal, Commercial, and Volunteer efforts in aiding the VIFS with its mission.

8230 Local Responsibility

The owner/operator of a waterfront facility and the Master of a vessel moored at a facility have a vested interest in the protection of the crew, facility, vessel and cargo. In the event of a fire, prompt notification must be given to local response agencies. The vessel/facility should contact the local fire department by calling 911.

It is essential that both emergency management officials and COTP be notified immediately of any marine fire. Notifications should be conducted in accordance with section 8410 of this Plan for rapid, efficient dissemination of information. Local standard operating procedures may dictate additional notifications.

The fire department within whose jurisdiction the vessel/facility lies, or moored, is the responsible fire suppression agency and is in charge of all firefighting efforts. The fire department which has jurisdiction will:

- Act as Incident Commander;
- Establish a command post when acting as IC;
- Request necessary personnel and equipment including fire boats and appropriate medical aid;
- Determine the need for, and request mutual aid;
- Make all requests for Coast Guard/federal personnel, equipment, and waterside security through the COTP;
- Establish liaison with police departments for landside traffic and crowd control, scene security, and evacuation;
- Provide portable communications equipment or common use frequency to response personnel from outside agencies.

In port areas where a vessel is underway or at anchor and near the boundary between adjacent cities, such that the exact location of the vessel is not easily determined, the fire department closest to the site shall respond until a position can be fixed by the Coast Guard, pilot, or Master. If another department has jurisdiction, a transition process will occur and the relieved fire department will then provide support as requested.

8240 Captain of the Port Sector San Juan Responsibility

COTP Sector San Juan will work with port authorities and local governments within its jurisdiction to maintain a current and effective marine fire fighting plan supported by the port community fire departments to ensure coordination of responding entities to marine fires and other incidents. This policy is consistent with the Federal Fire Prevention and Control Act of 1974 (PL 93-498).

The Coast Guard is designated as the primary search and rescue (SAR) agency in the maritime region. First priority must remain the saving of those from peril at sea and this will be undertaken without delay while fire fighting resources are being notified and requested to respond.

During a major fire onboard a vessel or waterfront facility, the COTP Sector San Juan is responsible for:

- Assume Incident Commander for a burning vessel underway or at anchor when the fire department with jurisdiction is unable to respond or no fire department has jurisdiction;
- Assume operational control of all Coast Guard forces on-scene;
- Establish safety or security zones as necessary;
- Provide information on involved waterfront facilities;
- Provide information on the location of hazardous materials on the vessel or at the facility, if available;
- Provide technical data on ship's construction, stability and marine firefighting techniques;
- Respond to oil or hazardous material discharges;
- Obtain tugs to assist in relocating moored or anchored vessels;
- Alert owners/operators of terminals or vessels at risk.

COTP San Juan will respond to calls for assistance and also advise local firefighting authorities on stability and salvage. ***The local community cannot rely on Coast Guard assets as the primary fire fighting resource***. Through his/her broad federal authorities to assure safety of the port and the environment, the COTP will convene a Unified Command to constantly monitor all activities involved in responding to the marine fire event, support the local Fire Chief as forward Incident Commander and develop an integrated response plan. Senior representatives from assisting departments/agencies should comprise the Unified Command for consultation to determine options and methods to conduct a coordinated response. The local emergency operations center (EOC) provides an excellent central location for joint agency responses. If additional resources are needed, they could be requested through CG District Seven Command Center. For SAR operations, the largest CG vessel on scene, or as directed by COTP, will assume On-Scene Commander and will act as the command and control platform. Upon the conclusion of rescue operations, an assessment will be made by the Unified Command as to the continued need for all units on scene. The operations now shift to fire fighting, salvage, and support of the safety zone (if established).

The Unified Command will then prioritize those and other needed functions as needed with the designated Fire Chief responsible for all fire fighting functions. If unassigned by the Unified Command, the COTP will act as the liaison between the Coast Guard, other response organizations and the media.

8250 <u>Owner/Operator Responsibility</u>

This plan is not intended to relieve the vessel/facility owner or operator (Master) or restrict their fundamental responsibility for safety or security of their vessel/facility. The Master provides a vital role to the Incident Commander in vessel orientation, on board cargo and stores, crew accountability and other vital information needed to safely extinguish the fire. It must be recognized, however, that the local Fire Chief is the most experienced in fire fighting and will be designated overall command of the fire response.

The Master, officers, and crew shall assist in the firefighting effort with the Master being the liaison between the Fire Chief and the vessel crew. The Master should provide the Fire Chief with crew members to act as guides, and shall control the actions of his crew. The Master shall not normally countermand any orders given by the local firefighters in the performance of their duties unless that action taken or planned clearly endangers the safety of the vessel or crew. In the absence of the Master, the senior deck officer will act for the Master.

8300 Planning and Response Considerations

8301 Levels of Response

Not all marine disasters require the full response set forth within this plan. The following parameters may be used as a guide in determining the scale and size of response organization required given the prevailing emergency conditions:

Level I Response – Local command structure – A marine casualty involving a vessel or facility that does not pose a major threat to the port. Examples include pleasure craft, small vessels in boatyards, houseboats, etc. This level of disaster can usually be handled by one fire department on the local level with minimal waterside support. Minimal state and federal assistance will be required. Sector San Juan shall be notified in accordance with section 8410 and will send a Pollution Responder or Federal On-Scene Coordinator Representative to the scene that will provide direct liaison to the COTP.

Level II Response – Unified Command structure – A marine casualty on a vessel or facility that has the potential to be a significant risk to the port. Examples include small freight vessels in San Juan harbor, container fires aboard container ships, tug fires, any ship/barge fires, etc. This level of disaster may involve the extra alarm response of two or more fire departments with mutual aid and waterside support requiring the coordination of county EOCs and dispatch centers. A Unified Command Post will be established by the jurisdictional fire department and notifications will be coordinated through the local EOCs and Sector San Juan command center. Sector San Juan will dispatch a port operations team and additional personnel required who will supplement the Unified Command staff to coordinate any support and resources outside the existing mutual aid agreements. Examples include stability calculations, obtaining salvage consultation, networking with port officials to move the affected or adjoining vessels, etc. Responses of this complexity will necessitate a NIMS compliant Incident Command structure of appropriate size only to manage the response.

8302 High Risk Areas and Cargoes

Those following areas within the San Juan and USVI region with stored regulated liquids in bulk include:

PASSENGER VESSELS: Port of San Juan/ Port of Fajardo/ Charlotte Amalie ST Thomas/ Frederiksted St Croix

BUNKERING: Port of San Juan/ Port of Guayanilla/Port of Pe uelas/ Port of Guayama/ Port of Yabucoa/East and West Gregerie Channel St. Thomas / Limetree Bay, St Croix

BARGES: Port of San Juan/ Port of Guayanilla/ Port of Guayama/ East and West Gregerie Channel St. Thomas / Limetree Bay, St Croix/ Christiansted, St Croix

MILITARY VESSELS: Port of San Juan/ Port of Ponce

RECREATION VESSELS: Port of San Juan/ Port of Fajardo/ Charlotte Amalie ST Thomas/ Christiansted St Croix

8303 Minimum Notification Information Required

Once the notification of a marine disaster has been received it is important that the receiving agency, whether it be a local fire department, local EOC, or the Coast Guard, will assess the situation to correctly dispatch the needed resources to contain the fire in a timely manner.

8304 Initial Response Coordination

Prompt notification to the jurisdictional fire department is the first and most important step in mobilizing the necessary response resources. Initial notification of a fire will normally be received by the local fire department through the 911 network for facility fires and vessels within the port or to the Coast Guard through channel 16 VHF-FM for vessels underway within the port or off shore. If hazardous materials are involved, make sure to notify the National Response Center at **1-800-424-8802.** If a waterfront facility involves a fire with hazardous materials, you must notify your Local Emergency Planning Committee as per the SARA Act.

The jurisdictional fire department will assume Incident Commander for all fires within the port and offshore out to 3 NM. Assistance to areas further offshore will be determined by distance, sea state, and prevailing weather and will be in agreement with COTP. The COTP may establish a safety zone at any time during the incident to protect the attending responders and control traffic in and around the area as needs dictate. The COTP will also query the vessels and cargoes in the fire zone to determine any additional safety precautions such as relocation or active monitoring for exposure. Local shipping agents will be notified of any potential involvement or delays in arrival or departure from their assigned moorings. When conditions warrant, a broadcast notice to mariners and/or marine safety information bulletin will be made to alert the port community and any imposed navigation restrictions.

8305 Access for Fire Fighting

Few disasters provide optimal circumstances. A facility fire may occur in a little used warehouse space where access is difficult. A vessel fire may occur while at anchor/underway away from the resources necessary to combat it or in lower decks

limiting the efficiency of firefighting water. Facility fires must be fought at the scene and in most cases, vessels which are moored will remain at their location to allow local fire departments to combat the fire. However, vessels other than those aground or involved in a collision are generally mobile and may be maneuvered away from further damage and brought to a location to optimize the fighting of the fire.

The COTP has final authority in:

- **Ordering/allowing movement of a burning ship;**
- **Creating accesses or penetrations into a hull of a ship or other issues involving hull integrity;**
- **Opening flooding boundaries or other issues involving stability.**

8306 Burning Vessel Movement Considerations

An optional and crucial decision that may be made by the COTP/Unified Command is whether or not to order/allow a burning vessel to be moved or allowed to enter the port. A number of movement scenarios are possible, and may be required in an emergency including:

- From sea to an anchorage or a pier;
- From an anchorage to a pier;
- From a pier to anchorage;
- Grounding a vessel;
- Scuttling a vessel offshore.

The COTP approaches a burning ship from a systematic point of view. This marine transportation system is used by various parties for transportation, recreation, and commerce. The possibility of having a ship sink in a key navigation channel or anchorage, or spreading the fire to other port assets must be evaluated. Risk evaluations and cost-benefit analysis are to be employed with a broad vision of the best interest to the entire port. The following information will normally be gathered and considered prior to making a decision to allow/order movement of a burning ship:

- Location and extent of fire;
- Vessel condition; possibility of vessel capsizing or sinking;
- Class, amount and nature of cargo;
- Possibility of explosion and/or release of hazardous materials (oil/fuel/hazmat);
- Hazard to crew or other resources where vessel is presently located;
- Potential for spread of fire to pier, nearby vessels/structures or other port assets;
- Maneuverability of the vessel (dead ship, etc.) and status of shipboard firefighting equipment;
- Pier access and firefighting resources available at new location;
- Present and forecast weather;
- Alternatives if the vessel is not allowed to move or enter port;
- Change in jurisdiction or government agency input; consultation with elected officials (mayor, city commissioner, etc.).

[**NOTE:** A request for entry into the port by a burning vessel under declaration of "force majeure" should be evaluated under the same previously listed criteria.]

Once the decision to permit entry or movement of the vessel has been made, consideration should be given to:

1. Consultation from harbor pilots to determine their procedures for handling emergency movement of vessels and response times.
2. Broadcast Notice to Mariners and moving safety/security zone.
3. Locating the vessel to optimize the use of available resources in fire fighting.
4. Ordering the movement of other vessels or cargo stored in the designated destination to preclude their involvement;

8307 Dewatering

Dewatering considerations should be addressed without delay. Although vessels will have bilge pump capacity, these pumps are limited to pumping water which settles into the lowest areas of the vessel; they are also susceptible to clogging. Moving and operation of portable pumps aboard a vessel/barge will require hoisting equipment and personnel in addition to those assigned to the fire fighting.

8308 Delays in Resource Arrival

- Protracted operations, such as during Level II responses, will require relief of first responding units and mutual aid elements that may be traveling long distances;
- Due to the large Sector San Juan Area of Responsibility and it's outlying units, response planners and Incident Commanders must be cognizant that resource delays may be encountered:

Of particular concern is logistical support of adequate quantities of extinguishing agents in bulk, larger volume fire boats, and portable fire fighting apparatus. Any necessary resources not immediately at-hand should be requested through the appropriate channels (local EOC, State EOC, RDSTF, etc.) as soon as possible.

8309 Assist Tugs

In nearly all marine fire situations, tug companies should be contacted early in the planning phase to evaluate their capability and willingness to provide towing assist services to burning ships. They may also be called upon to move barges or moored vessels in close proximity of the fire or provide logistical support to firefighting teams.

8310 Fire Boats and Marine firefighting

The Puerto Rico fire department has currently one fire boat; 27 feet Boston Whaler with a 2 exit monitor of 2.5 inch with a capacity of 750 gallons per minute located in the Cata o Municipality Fire Station. 14 members from their organization are currently certified in land based marine firefighting. These firefighters are located throughout the island:

1) Sgto. Joel Figueroa Betancourt- DOE Hato Rey
2) Sgto. Alejandro Santiago Negrón-DOE Ponce
3) Bomb. José De Jesús-Negociado de Adiestramiento San Juan
4) Bomb. Víctor Soto-Negociado de Adiestramiento San Juan
5) Sgto. Earl Santiago González-Humacao II
6) Sgto. José De León Félix-HLS Juncos
7) Bomb. Mervin Pomales Rolón-HLS Juncos
8) Bomb. Javier Félix Delgado-Yabucoa
9) Bomb. Luís Valentín Nieves-HLS Juncos
10) Bomb. Ángel Cotto Nieves-HLS Juncos
11) Bomb. Dennis Vega Quiles-Rio Piedras
12) Bomb. Abimael Rodríguez-DOE Barceloneta
13) Sgto. Julio Pantojas Feliciano-Cataño
14) Sgto. Néstor Batiz Velázquez-DOE Ponce

(Note) USVI has no marine firefighting personnel at this time. There are no fire boats but they do have private tugs and salvage vessels that have some marine firefighting capabilities. For further information please contact VITEMA.

8311 Communications

EMERGENCY/CONTACT NOTIFICATION LIST FOR PUERTO RICO AND United States Virgin Islands:

P.R. Emergency Contacts:

FIRE DEPARTMENT/RESCUE MEDICAL/ POLICE : 911

Puerto Rico Emergency Management (PREMA):

Address:
PO Box 194140
San Juan, PR00919-4140
Phone:
(787) 724-0124
Fax:
(787) 725-4244
Email:
info@prema.pr.gov
Website:
http://www2.pr.gov/agencias/aemead/contactenos/Pages/Oficina-Central.aspx

USVI Emergency Contacts:

FIRE DEPARTMENT/RESCUE MEDICAL/ POLICE : 911

VIFS (Virgin Islands Fire Service): 340-774-7610 / 340-774-5156

USVI Port Authority: (340) 774-6755

USVI Police Dept: (340)-774-2211

USCG MSD St Thomas: (340) 776-3497

USCG Rio St Croix: (340)-772-5557

ST Thomas:
VITEMA: **VITEMA Headquarters:**
8221 Estate Nisky
St. Thomas, VI 00803
Tel: (340) 774-2244
Fax: (340) 715-6847
Police: 340-774-2211

St John:
VITEMA: **St. John Office:**
6 Susannaberg
St. John, VI 00830
Tel: (340) 776-6444
Fax: (340) 714-4470
Police: 340-693-8880

St Croix:
St. Croix Office:
2164 King Cross St.
Christiansted, VI 00820-4840
Tel: (340) 773-2244
Fax: (340) 778-8980
Police: 340-778-2211
Fire Dept: 340-772-0213

Web site: http://www.vitema.gov/

FEDERAL AGENCIES:

- USCG SECTOR SAN JUAN COMMAND CENTER (24 hrs) (787)-289-2040/41
- EPA (REGION II) (732) 321-6656
- EPA (CARB. OF) (757) 977-5815
- D7 CC (305) 415-6800
- NSFCC (252) 331-6000
- ATLANTIC S/T (609) 724-0008
- NAVY SUPSALV (202) 781-3889

8400 Marine Fire Fighting Response

8401 Marine Firefighting Guidance

Land based fire fighters will normally fight fires at waterfront facilities using structural tactics. Vessel fires require entirely different strategy and tactics. Fire departments are strongly encouraged to use the extensive information and advice in NFPA Standard 1405, *Guide for Land-Based Fire fighters Who Respond to Marine Fires*.

8402 Basic Priorities of Firefighting

It is impossible to anticipate every task or activity that will be required to effectively respond when dealing with a major marine fire. There are, however, several basic priorities which must be addressed particularly in the case of a vessel fire at sea. Operational fire fighting priorities listed in order are as follows:

Rescue: Life safety must always be the first consideration in any fire or emergency situation. When lives are in danger, the IC must quickly assess whether the situation necessitates immediate removal of personnel and the number of persons that need to be.

Exposures: The fire should be fought so as to prevent the spread of fire on or off the vessel. Typical exposures include flammable liquid or gas tanks, open stairways, explosives, or any other substance which would accelerate or aid the spread of the fire.

Confinement: The effort to establish control over the fire through impeding the fire's extension to non-involved areas and limiting the fire to its area of origin. To accomplish proper containment:

- Secure all closures and generally all ventilation (unless personnel are trapped inside the space);
- Establish primary fire, smoke, and flooding boundaries. Primary boundaries are critical to the control of a fire;
- Monitor and cool the boundaries, as necessary (if steam is produced when sprayed with a fog pattern, continue to cool the surface), on all six sides of the fire (fore, aft, port, starboard, above, and below).

Extinguishment: The main body of the fire should be attacked and suppressed. The goal is to cease combustion by disrupting the cycle of the fire tetrahedron. Tactics and agents to be used will be determined by the fuel source, amount of fuel/surface area and location of the fire.

Stability: The introduction of large amounts of water for firefighting can significantly alter the center of gravity of a vessel. Experts from the Marine Safety Center, National Strike Force, or Navy Supervisor of Salvage should be consulted for stability calculations and advice. Regardless of the degree of list, common hazards to compromised stability include:

- Diminished footing for response personnel;
- Difficulty in maintaining a foam blanket;
- Closure failures to automatic fire doors;
- Reduced effectiveness of fixed dewatering systems;
- Shifting of unsecured equipment and machinery (failures to securing mechanisms).

Overhaul: Actions to complete incident stabilization and begin the shift to property conservation. Considerations during overhaul include:

- Hazards from structural conditions at the fire scene;
- Atmospheric conditions (air packs should remain mandatory in the case of interior fire overhaul due to the likely presence of toxic vapors, carbon monoxide, and low oxygen levels);
- Monitor scene to ensure the fire will not re-ignite;
- Determination of the fire's point of origin and source of ignition;
- Access control of watertight doors to manage flooding boundaries (stability and free surface effect);
- Detailed photographic records of the fire scene prior to clearing any debris is highly recommended to aid in post fire investigations.

Ventilation: Ventilation tactics will vary depending upon the location and conditions of the fire. Generally, all ventilation on a vessel will initially be secured and all dampeners shut upon receipt of a fire alarm. The purpose in ventilation shutdown is both to decrease the flow of oxygen to the fire area and to begin the containment process.

De-Watering and Salvage: As noted in NFPA 1405, basic stability data should be gathered during the initial stages of the incident:

- Drafts should be monitored at least every 30 minutes to quickly identify any changes in stability;
- Monitoring should continue at least four hours after water flow has stopped.

Oil and hazardous materials may enter the water during fire fighting and dewatering operations. Containment and recovery of these materials is an important consideration. The determination to fight the fire over the environmental concerns will continually need to be evaluated to the prevailing conditions (tires, burning containers, potential for sinking the vessel, etc.).

8403 Response Sequence

Action in response to a fire incident is broken into five phases for this plan's purposes:

- Phase I Discovery and Notification
- Phase II Evaluation and Initiation of Action
- Phase III Assessment of the Situation:
  Rescue>>Exposure>>Confinement>>Extinguishment>>Overhaul

- Phase IV Demobilization
- Phase V Documentation and Cost Recovery (Collection of Lessons Learned)

8410 Notifications and Dispatch

Regardless of the agency first to discover the fire, it is agreed the following agencies will be also notified if the incident is their jurisdictions:

All ports: USCG Sector San Juan 787-289-2040/2041

8420 Command Posts and Jurisdictional Command

To effectively combat a major fire, an Incident Command Post (ICP) must be established as soon as possible. A command post provides several critical services:

- A single central site for command and control of the response. This reduces confusion among response personnel;
- Ready access to continuous communications between on-scene and off-scene personnel.

The nature and location of the fire will be the deciding element in determining which agency assumes overall command or the lead in a unified command. The lead agency must be determined as early as possible in the incident to ensure effective use of personnel and equipment. Upon arrival of the *first response unit*, the senior response officer assumes incident command, assesses the situation, determines what additional assistance is needed, and reports conditions observed to the emergency dispatch center for relay to all jurisdictional agencies.

During the course of an incident (from arrival to clean-up), the lead agency may change as incident conditions change. The COTP may be the Incident Commander (IC) for any fire involving a vessel underway or anchored within the AOR. For vessel moored, the local fire department is the IC and the COTP will support the IC system. For any vessel fire, the local and mutual aid fire departments will be the primary fire fighting resources. When fire is involved at a shoreside facility, the local fire department is the Incident Commander. Note the required COTP consultations in Sections 8305 and 8307.

8420.1 Shoreside Incidents

For fires at a facility or on a vessel moored to a facility, there should be one Incident Command Post. It should be established as close to the incident as safety permits. Ideally the ICP would be located in an office at the facility. At a minimum, it should:

- Provide a large open area to permit status board maintenance

- Adequate lighting and communication with IC

8420.2 Underway/At Anchorage Incidents

For incidents involving vessels underway or at anchorage, the Incident Command Post may be afloat, or at the Sector Command Center or nearest port office with a forward command afloat. Potential afloat ICP platforms include:

- Coast Guard cutter
- Municipal Fireboats
- State Marine Units (e.g. FWCC Randall)

The COTP will request a fire department liaison be provided aboard any CG floating Incident Command Post to provide technical advice on scene. If a fire department establishes a floating ICP, the COTP will provide a CG liaison officer.

8420.3 Unified Command

In instances where several jurisdictions are involved or several agencies have a significant management interest or responsibility, a Unified Command with a lead agency designation may be more appropriate for an incident rather than a single command response organization. Generally, a unified command structure is called for when:

- The incident occurs within one jurisdiction but involves several agencies with management responsibility due to the nature of the incident or the resources needed to combat it;
- The incident is multi-jurisdictional in nature because it affects, or has the potential to affect, several jurisdictions.

8421 Coordination of Special Resources

Requests for federal resources and special forces should be submitted through the COTP (Navy, Supervisor of Salvage, International Cargo Bureau, etc.). All resources and special forces made available will normally come under the direction and the control of the COTP unless otherwise agreed upon by the COTP and Fire Dept IC. State and local agency resources and special forces made available during an incident will normally come under the direction and control of the Fire Dept IC unless otherwise agreed upon by the Fire Dept IC and COTP.

8422 Termination of Response Activities

This decision will be made by the Incident Commander (IC) after consulting with the COTP unless it is a Level II response where the Unified Command will determine cessation of activities.

Note: Although firefighting efforts may be terminated, the vessel/facility should maintain a fire watch for at least 48 hours after the fire is out.

8423 Resolution of Disputes

Disputes will normally be resolved at the lowest level possible. If not resolved there, they will be referred to the ICP for resolution between the senior Coast Guard and jurisdictional Fire Dept representatives. If not resolved at the ICP, they will be referred to the COTP and appropriate Fire Chief.

8500 Plan Administration

8501 Exercises

Proper training and exercises are necessary to ensure smooth coordination in the event of an actual fire or incident. Realistic exercises also demonstrate the capabilities of the various organizations involved. These exercises also expose possible conflicts and create opportunities to improve the plan.

COTP Sector San Juan will schedule periodic exercises with selected fire departments, port facilities and government agencies within the various ports of the Common Wealth of Puerto Rico and the USVI. It is recommended that each fire department or response organization coordinate with the port facilities and shippers in their respective jurisdictions and develop training and orientation on their own. The COTP will also assist coordination with other organizations if a larger exercise is required for assistance in arranging an exercise, contact:

USCG Sector San Juan
Attn: Contingency Planning & Force Readiness Staff
La Puntilla Final #5
San Juan, PR 00901
(787) 289-2040/2041

8502 Training

Training is the cornerstone of effective response. Effective training makes the difference between saving lives and property and having a major port disaster. In addition to the numerous colleges offering advanced firefighting curricula, the COTP may provide training sessions periodically for local fire departments, facility owners/operators and shipping companies. Such training might discuss ship construction and basic stability, shipboard/facility firefighting, salvage and hazardous material response. Suggestions for other training, volunteer speakers and general comments concerning this program should be directed to:

USCG Sector San Juan
Attn: Contingency Planning & Force Readiness Staff
La Puntilla Final #5
San Juan, PR 00901
(787) 289-2040/2041

For further information consult, National ***Fire Protection Association; NFPA 1405: Guide for Land-Based Fire Fighters Who Respond to Marine Vessel Fires***

8510 Plan Review

This Plan, as well as the entire Sector San Juan Area Contingency Plan, will be available for review on the USCG Homeport website at http://homeport.uscg.mil , select "San Juan" in the port directory table. Revisions/comments may be made to Sector San Juan Contingency Planning Staff.

The COTP is responsible for the administration of this Plan and will keep it current by convening a meeting with the Marine Fire Fighting Planning Committee. This committee will meet at least annually to review this Plan for accuracy and/or revision.

The Marine Fire Fighting Planning Committee is comprised of representatives from each of the ports of the Sector San Juan COTP AOR. A separate record will be maintained of any scheduled or ad-hoc Plan meetings with the roster and minutes available for review by all Marine Fire Fighting Planning Committee members.

A**ny changes and/or revisions will be annotated in the Record of Changes.**

8520 Memorandums of Agreement / Memorandums of Understanding

None at this time.

Antillean Manatee Response Plan

Current Population, Distribution and Life History

The Antillean manatee, *Trichechus manatus manatus*, is a large aquatic mammal with flat short forelimbs, no visible hind limbs, and a flat rounded tail. Adults range in color from gray to brown, can reach a length of 13 feet, and can weigh up to 3,500 pounds. The average manatee is about 10 feet long and weighs some 700-1000 pounds. Manatees are long lived but the existing method of determining age is time consuming. There are, however, records of one captive manatee living for almost 50 years (Marmontel, 1992).

The skin of manatees is finely wrinkled and the surface layer is continually sloughing off. A layer of blubber occurs under the skin. Hair is distributed sparsely over the body with stiff whiskers around the face. The wide set eyes have inner membranes that can be drawn across the eyeball for protection. Nostrils are located at the upper end of the snout, while the ear openings are located just behind the eyes.

Manatees are tropical animals highly susceptible to cold. Their low metabolic rate and poor insulation limit the manatee's ability to tolerate cool water temperatures. Field and laboratory observations indicate that they are not energetically well adapted to water temperatures less than 70°F (20°C) (Irving 1983, Shane 1983). Their slow healing rate also appears to be due to their low metabolic rate.

Manatees spend approximately 5-8 hours a day feeding and in that time consume 4-11% of their body weight in seagrass (Van Meter, 1989). They are known to be opportunistic feeders, eating many different kinds of aquatic plants by grazing or digging into the sediment with their fore flippers to eat seagrass roots and rhizomes. Submerged, emergent, and floating vegetation appear to be their preferred foods. Manatees often choose protection from wind and currents in their feeding grounds. Manatees also incidentally eat invertebrates and in captivity will accept fish. Manatees rest from 2-12 hours a day either suspended near the surface or lying at the bottom.

Manatees are not territorial or aggressive nor does one individual dominate a group. Groups seem to form casually without regard to age or sex, except for the bond of mother and calf (Hartman~~,1979~~, 1979) and some bachelor groups during breeding. Social interaction includes nuzzling, bumping, chasing, and frequent vocalizations (Bengtson, 1985).

Female manatees usually reproduce successfully by 7-9 years of age, producing a single calf per pregnancy. Most calves are born after a gestation of about 13 months. The interval between births is about 3-5 years. Newborn calves range in length from 4-4.5 feet and weigh about 65 pounds. Calves remain dependent on their mothers for up to two years, usually nursing for 1-1.5 years. Calves are born with premolars and molars and begin nibbling on plants within a few weeks of births.

Manatees are protected in US waters by the Marine Mammal Protection Act (1972) and the Endangered Species Act (1973). Under Section 6 of the Endangered Species Act, the PR Department of Natural and Environmental Resources (DNER) and the US Virgin Islands Department of Planning and Natural Resources (DPNR) have jurisdiction as well.

Manatees in the Caribbean are mostly oceanic in nature due to the lack of large deep rivers in Puerto Rico or the Virgin Islands. Manatees usually stay near the shore to feed and have been known to travel extensively around the island of Puerto Rico and to the coasts of Vieques. Rarely are manatees seen in the area of Culebra, or the Virgin Islands. This is probably due to the lack of adequate freshwater sources in these islands.

The impacts of discharged oil on adult manatees' thermoregulatory abilities are probably not affected by direct contact because of the blubber insulation. Also, they exhibit no grooming behavior that would contribute to ingestion. However, ingestion could occur from tar balls or pellets contaminating seagrass feeding areas. This is especially true for Type V and LAPIO oils that tend to settle to the bottom. Concern has been expressed with regard to manatees inhaling volatile vapors from a spill (Hansen, 1992) when surfacing and becoming intoxicated. At least one instance of this type of impact has been reported in Puerto Rico (Mignucci personal communication). It is very likely that when surfacing, exposure to petroleum hydrocarbons would irritate eyes and sensitive mucous membranes around the nose and mouth (St. Aubin and Lounsbury, 1990). Nursing calves may be at risk due to ingestion of oil around contaminated teats. There may be long term chronic effects as a result of swimming though oil contaminated waters and there is a substantial possibility of consuming contaminated plant material and other organisms. Manatees may not be severely affected by an oil spill through direct contact but they are sensitive to habitat disturbance and injury from boats as well as the presence of response materials such as booms, etc. (Beck and Barros, 1991).

Distribution

Although manatees are found along the entire coast of Puerto Rico, the largest concentrations are found in Mayaguez Bay, Guayanilla, Jobos Bay, in Ceiba/Roosevelt Roads Naval Station in Ensenada Honda Bay and Algodones Bay, and Fajardo Bay. There seems to be a transient population along the north coast of Puerto Rico from Mayaguez to Aguadilla to Fajardo. There is an exchange of manatees between southeastern Puerto Rico and neighboring Vieques Island. Manatee sightings are rarely reported for the island of Culebra and the US Virgin Islands.

The Antillean manatee is largely oceanic, usually following the coast from bay to bay in search of seagrass, which is their main food item, and freshwater.

Primary Response

Primary response strategies that should be emphasized for the Antillean Manatee are:

Mechanical Cleanup
Oil should be prevented from entering areas where manatees are known to inhabit.

Protective Booming
If mechanical cleanup is not feasible, boom may be placed. Protective and sorbent boom may be effective in controlling or reducing contamination along the coast and bays. However, manatees can become entangled in boom and frequent monitoring of boom is required.

In-Situ Burning (ISB)
Depending on the type of oil discharged into the tropical environment, weathering may occur rapidly. Provided that the current ISB Policy is followed, there should not be any adverse effects on manatees in the area. Depending on the location, aerial surveys for manatees should be carried out by a qualified observer prior to and during a burn.

*Dispersant*s
There is no data available for the impacts of dispersant or dispersed oil on manatees. Provided that the current Dispersant Policy is followed there should not be any adverse effects on manatees by the use of dispersants. Depending on the location, aerial surveys for manatees should be carried out by a qualified observer prior to and during a dispersant application.

Secondary Response

It is important when employing a deterrent designed to move an animal away from or towards a specific site that the personnel are properly trained and do not place the animal in any additional jeopardy. All secondary response activities must have the approval of the Fish and Wildlife Service (FWS) and local trustees prior to use.

Currently there is no data available indicating that either visual or auditory methods are successful in keeping manatees away from an area.

Herding
Herding manatees away from a spill site may be feasible but only in extreme cases. This method requires prior approval from FWS and local trustees and should be carried out by qualified personnel.

Tertiary Response

The FWS will direct the capture, treatment and/or relocation of all distressed manatees in its jurisdiction. These activities are conducted by FWS or other federal, Commonwealth, Territorial personnel acting on behalf of FWS. There are two authorized contractors, judged by the FWS to be sufficiently qualified to carry out these operations: the Caribbean Stranding Network and the Puerto Rico Zoo. Any tertiary response activity must have the approval of FWS Endangered Species Biologists and the local trustees.

Capture
The Service does not encourage the removal of any manatee from the wild unless absolutely necessary. Guidance and protocols for capturing and handling manatees is available through the FWS Field Office in Boqueron or Puerto Rico Department Natural and Environmental Resources. Manatees can be captured and restrained with nets provided that care is taken to avoid entanglement and drowning. Boats, enclosures, slings and ropes will also be needed. One method of capture is to surround the manatee in a large gill net and gradually draw it to shore until it is shallow enough for handlers to physically restrain the animal.

Handling
No information is currently available on the cleaning of oiled manatees. Any handling should be accomplished by trained wildlife response personnel and a qualified veterinarian.

Transportation
Because of their weight, transportation of manatees is not easy. Once the animal is in shallow water it must be maneuvered into a sling or stretcher. Once out of the water manatees generally become calm; however, they should always be restrained. Covering the eyes and wrapping the snout with netting tend to calm the animal. During transportation, the manatee's skin should be kept wet and initial removal of oil should begin.

Care
There are two facilities equipped to handle manatees, the Puerto Rico Manatee Conservation Center, located in Interamerican University in Bayamon and the Puerto Rico Zoo Marine Mammal Rehabilitation Center in Mayaguez. These facilities must be contacted prior to any attempted capture. Proper diet, supplements and medication should be monitored by a qualified veterinarian.

Release
Manatees are released only if they are cleared for return to the wild through standard health screening by a qualified veterinarian. If possible, the animals should be returned to, or close to, the area of capture.

Diseases

Manatees are known to be particularly susceptible to secondary fungal infections and bacterial infections following injury during capture and transportation. Cases of general respiratory infection such as bronchitis, pleurisy, and pneumonia have been reported in captive manatees. All captured animals should undergo a thorough physical examination including blood workup and samples upon capture and before release.

Note, most of the above criteria and recommendations can also be used for other marine mammals such as dolphin or porpoise which can also be impacted by oil spills. For all other marine mammals other than manatees, NOAA is the primary trustee.

Contacts

Caribbean Stranding Network
787-399-1900
www.manatipr.org

Dr. Nilda Jimenez
DNER/Marine Resources Division
San Juan, PR
787-999-2200 x2710
787-645-5593 (cell)

Grisel Rodriguez Ferrer
DNER/Marine Resources Division
Joyuda, PR
787-833-2025
787-538-4684 (cell)

Puerto Rico Zoo
Dr. Luis Figueroa
787-834-8110

FWS Caribbean Endangered Species Office
787-851-7297 x220
787-548-8404

DNER Rangers
787-724-5700

Manatee Conservation Center PR
Dr. Antonio Mignucci
787-279-1912 / 2070
787-399-1900 (cell)
Mignucci@manatipr.org

Biological Incident Annex

Introduction

[Link to the Biological Incident Annex in the NRP]

Response to a biological incident in the coastal zone can range from the illegal disposal of medical waste to the intentional release of a disease-causing organism. Initial response actions to a biological incident will depend on the type of incident and the cause or suspected cause of the incident (i.e. terrorist act).

The Coast Guard Incident Commander's response to biological incidents most likely will involve the use of both the Captain of the Port and Federal On-scene Coordinator (FOSC) authorities. The FOSC role is limited to disease causing agents that exist outside a host for a period of time and which can be physically removed from the environment.

Purpose

The purpose of this Annex is to provide initial response guidance upon notification of a suspected or actual report of a biological incident in the coastal zone.

If the biological incident is suspected or confirmed to be the result of a terrorist act, response to the incident should be initiated using this Annex, the Terrorism Incident Annex, and the Area Maritime Security Plan which can be found on HOMEPORT.

Using this Annex

The guidance in this Annex includes initial actions to be taken when responding to:

- Illegally dumped medical waste
- Quarantine (suspected or confirmed infectious disease on a vessel)
- Suspect or confirmed release of a biological agent involving:
    - Tainted, contaminated or otherwise suspect cargoes
    - Passengers and crew of a vessel
    - Buildings in the coastal zone

Illegally dumped medical waste

- Determine if competent authorities are taking appropriate action to remove the hazard (State and/or local health agencies are normally the lead agencies)
    - If yes,
        - Provide support as capabilities, authorities and safety of Coast Guard personnel allows
        - If no,
            - Contact local law enforcement and secure the area

- Ensure that local health officials are aware of the incident
- Determine if the medical waste presents an imminent and substantial danger to public health
- Initiate cleanup operations under CERCLA
- Hire a contractor authorized to handle medical waste to remove the hazard. Local cleanup contractors that can respond to a biological incident [Future Link to Contractor List]

Quarantine (suspected or confirmed infectious disease on a vessel)

The intent of quarantine is to isolate the vessel involved, prevent those infected from going ashore without proper precautions, and to limit exposure to shore side personnel.

Upon notification that a vessel may have a possible or actual communicable disease onboard or is flying the quarantine flag, the following actions should be taken:

- ❑ Immediately establish communications with the vessel to determine
  - Why the vessel is flying the quarantine flag
  - What disease is onboard
- ❑ Determine if the vessel has adequate crew to safely navigate the vessel
- ❑ Do not permit any Coast Guard personnel to board the vessel without approved safety precautions
- ❑ Immediately notify federal, state and local health departments
  - U.S. Public Health Department
  - Puerto Rico Department of Health
  - Centro Medico Building Complex
    Phone (787) 777-3535
  - Building A Mental Center
    Phone (787) 274-7676
    Phone (787) 474-2028 (24 Hours)
    Phone 1-800-981-5721 (Hotline)
    Fax (787) 765-7840
  - USVI Department of Health
    48 Sugar Estate
    Charlotte Amalie, USVI 00802
    Phone (340) 774-0117 or 773-6551
    Fax (340) 777-4001 or 773-1376
- ❑ Gather medical information on affected crewmembers and passengers
- ❑ Obtain Local Agent Information and crew list
- ❑ Establish vessel security to control access (on and off the vessel)
- ❑ Maintain log of personnel that come on and off the vessel
- ❑ Ensure that Pilot's Association is notified (If possible prior to Boarding)
- ❑ Issue COTP order to
  - Implement a security and safety plan

  - Prohibit cargo operations
  - Prohibit discharge of 'grey' water, garbage and other consumable to shore
- Notify unit's Public Health Doctor to advise the Command and provide liaison with local health officials
- Direct vessel agent to secure the appropriate medical assistance for crew
- As directed by public health, Incident Commander implement port quarantine plan
- Notify Center for Disease Control, request assistance from Agency for Toxic Substances and Disease Registry (ATSDR)
- Notify Customs and Border Protection

Suspected or confirmed release of a biological agent

The actions that the Coast Guard Incident Commander takes in response to a suspected or confirmed release of a biological agent will be driven by many factors:

- Is the incident on a vessel? If yes,
  - Have the crew and/or passengers been impacted?; or,
  - Is it the vessel's cargo?
- Is the incident at a facility or building in the coastal zone?
- Is the intelligence credible?

For any suspected or confirmed biological incidents involving vessels

- Consult with appropriate agencies to determine details for issuing a Captain of the Port Order directing the vessel to remain offshore or go to a safe anchorage [Link to Port of Safe Refuge/Security Event on a Vessel Document]
- Work with the appropriate Intelligence Agencies to determine if threat is credible or non-credible
  - If credible, support the Department of Health and Human Services which is the Coordinating Agency and the Federal Bureau of Investigations
- Initiate Critical Incident Communications procedures
- Determine if Safe to Respond
  - Work with the Unified Command to determine the control zones (hot, warm, cold)
  - Ensure Unified Command communicates location of zones to response personnel
  - Document Safe to Respond determination
- Support designated public health officials to minimize the health risk of passengers and crew
  - Isolation of contaminated areas
  - Gross decontamination for exposed personnel (showers)
  - Minimize spread by securing contaminated articles (bag suspected clothing)
- Ensure all crew, pilot and passengers are accounted for and maintain positive

control
- Determine if a safety zone will be required (waterside and landside)
- Determine any actions required for the safety of the crew and any passengers
- Contact Seventh District for determination if a Statement of No Objection (SNO) is required for law enforcement boarding
- If necessary, request a Crisis Exemption from the Environmental Protection Agency for the use of any chemical countermeasures that use products regulated by the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) of 1996
- Crisis communications
    - Medical professionals should communicate with the public
    - Public health are the primary spokespersons for biological incidents
- Determine need to obtain CERCLA funding

If suspected source for the biological agent is cargo

The Unified Command should consider the following priorities, objectives and determinations when responding to a suspected biological agent that involves a vessel's cargo.

Unified Command Priorities

- Safety of boarding teams
- Public safety
- Selecting a location to offload suspected cargo/passengers
- Disposal of the cargo

Unified Command Objectives

- Conduct security boarding
    - Boarding team to examine ship's medical log to determine if any entries were made regarding crew's possible exposure to a biological agent
- Check for secondary devices (explosives)
- Conduct non-intrusive assessment of suspect cargo testing for:
    - Flammable
    - Radiological
    - Chemical
    - Biological
    - Explosives
- Ensure the preservation of evidence for potential prosecution

Unified Command Determinations

- Determine the location where suspected cargo should be offloaded
    - At anchorage

- Pier side
- Determine need to establish a Science Team
- Determine where to dispose of the cargo
  - At sea
  - On land – May require State permit for disposal, a problem may occur when crossing state boundaries

Unified Command Organization

The cooperation of many organizations will be required to successfully respond to and mitigate the threat posed by a biological incident. The information depicted in Figure 1 represents agencies that may support a biological response operation and where they may potentially operate in a Unified Command organization. This information should be used in conjunction with the Unified Command organization structure outlined in the Terrorism Incident Annex.

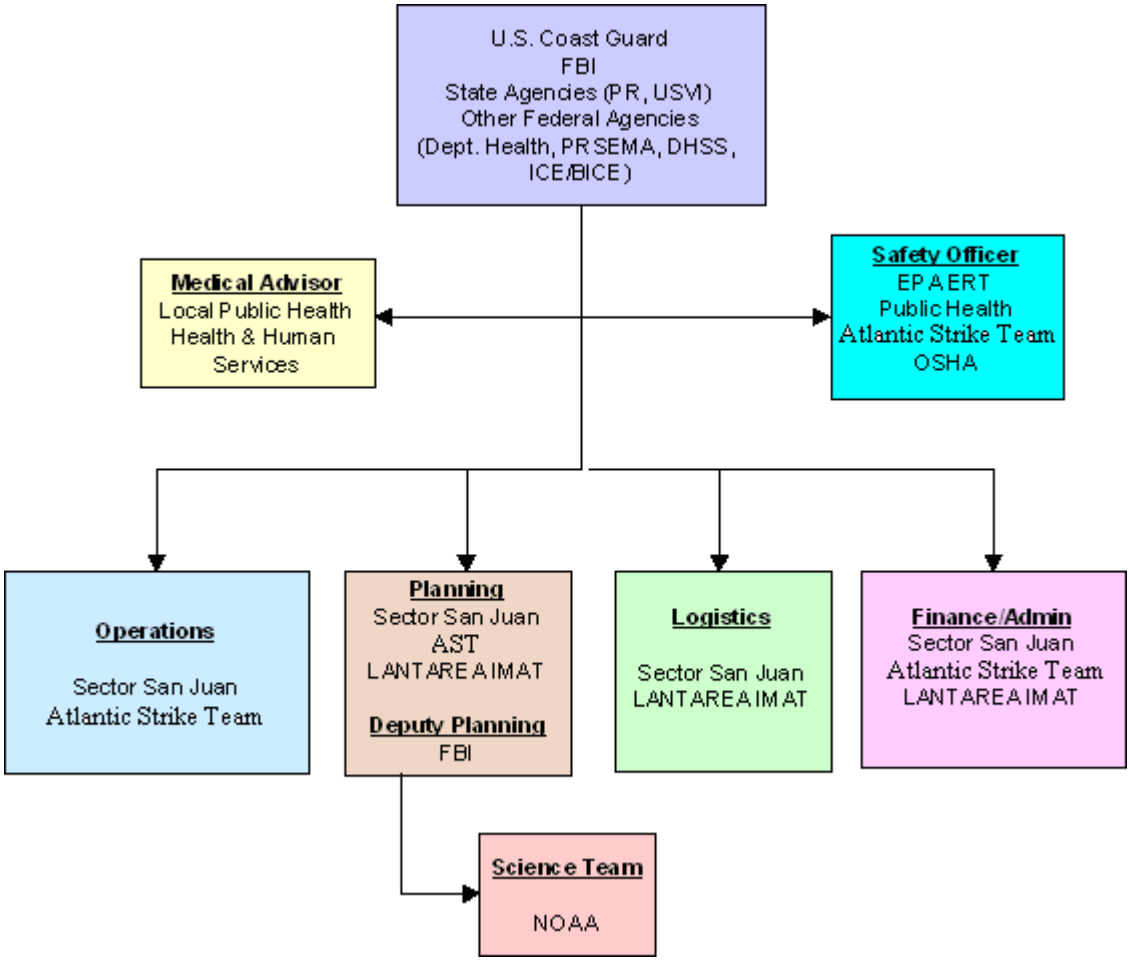

Figure 1

Figure 1 depicts the potential agencies that may respond to a biological incident in the coastal zone. The information in this Figure should be used in conjunction with the ICS organization structure in the Terrorism Incident Annex.

Science Team: The Science Team is led by NOAA's Scientific Support Coordinator and is responsible for:

- Determining appropriate entry procedures for inspecting the interiors of suspected containers if container cargo
- Developing a sampling plan
- Developing disposal protocols for unknown biological hazards
- Developing plan to transport and dispose of contamination

The Science Team may have representation from a wide variety of agencies and entities including but not limited to:

- Center for Disease Control and Prevention
- U.S. Department of Agriculture
- USCG Atlantic Strike Team
- Environmental Protection Agency Region II
- Request for EPA assistance made through their Regional Response Center 24-hour number
- Food and Drug Administration
- State Health Agencies
- Puerto Rico Department of Health Services
- Puerto Rico State Emergency Management Agency
- USVI Department of Health
- Animal Plant and Health Inspection Service (APHIS)
- Puerto Rico Environmental Quality Board

A Building Structure in the Coastal Zone

Local and state health agencies have primary jurisdiction in responding to biological incidents. The Coast Guard Incident Commander will ensure that:

- Competent authorities are responding
- Notifications are made to the appropriate authorities:
  - Environmental Protection Agency Region II
  - Federal Bureau of Investigation San Juan Field Office
- The incident site is secured
  - A site assessment is conducted
  - Sampling and analysis plan
- Once situation is stable the CGIC will begin transferring the role of Federal On-scene Coordinator to the appropriate EPA region

Special Teams

The following special teams are equipped to respond to biological incidents, and should be considered as potential response resources:

- EPA Emergency Response Team (ERT)
- USCG Atlantic Strike Team (AST)
- OSHA
- NOAA
- Special Teams are accessed through PR SEMA
    - Local Hazmat Teams
    - National Guard WMD Civil Support Team
- Puerto Rico Environmental Quality Board Specialized Response Team and Assets
- Special Teams are accessed through Puerto Rico State Emergency Management Agency

Additional special teams can be found in the Special Teams Handbook

Bird Response Plan

This plan is not meant to replace the US Fish and Wildlife Service November 2003, document "Best Practices for Migratory Bird Care during an Oil Spill Response". Rather it provides some area specific information that can be used in conjunction with the Best Practices document.

Authorities and Status

In the event of an oil spill, trust responsibilities for migratory birds and their habitats are clearly given to the U.S. Fish and Wildlife Service through several federal legislative statutes including the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Clean Water Act (CWA), and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). The US Fish and Wildlife Service (FWS) and local Natural Resource Trustees have the responsibility for managing and protecting migratory birds under the authority of the Migratory Bird Treaty Act (16 U.S.C. 703-711) and local Commonwealth or Territorial laws. The Trustees' management goals include these objectives:

- Conduct surveys, inventories, and studies to monitor populations of migratory birds.
- Coordinate regional, non-game, migratory bird activities within the FWS and with local Federal, Commonwealth, Territorial and private entities.
- Identify threats to migratory birds and conduct studies to determine mitigative measures to alleviate the adverse impacts of threats (USFWS, 1991)

The FWS will work closely with any party engaged in exploration, development, transportation, or storage of energy resources to ensure that migratory birds are adequately protected. The handling of migratory birds requires FWS and local Trustee permits, oversight and approval during secondary and tertiary response activities. This plan is modified from the existing Bird Response Plan found in the FWS National Contingency Plan.

Current Population, Distribution, and Life History

Several groups of migratory birds are included in these guidelines.

Terrestrial migratory birds such as passerines are also of concern to the Service, however, they are unlikely to be affected during a marine incident and response strategies for these species are currently unavailable. Additional information will be added as soon as it is available.

Seabirds such as boobies, terns, tropic birds, frigate birds and gulls are found on the oceans from the coast to the high seas. Most only come to shore to nest in large colonies, on isolated islands in the Caribbean.

Waterfowl such as ducks, moorhens, and coots use coastal lagoons, saltponds and mangroves as foraging and nesting habitat.

Shorebirds such plovers, stilts and sandpipers use the shoreline, saltflats, reef flats, saltponds and lagoons for feeding and nesting.

Diving birds such as pelicans, grebes and cormorants are found in costal lagoons, and along the shoreline.

Wading birds such as egrets and herons are found foraging along the shore, coastal lagoons, mangroves, reef flats, mud flats and saltponds.

Raptors such as hawks, osprey and falcons may prey on marine and other birds impacted by oil or scavenge carcasses.

Both Puerto Rico and the Virgin Islands have resident and transient populations of these species.

Susceptibility to Oil Spills

The susceptibility of migratory birds to oil spills depends on many biological and environmental factors. Migratory birds that are gregarious spend a lot of time on or near the water, they flush when disturbed, or have low reproductive rates are particularly vulnerable to oil spills. In addition, species with small populations, restricted range, or rare, threatened and endangered species may be more susceptible to spill contamination.

A bird's feathers overlap to trap air and provide warmth and buoyancy.

Birds that contact an oil slick may: experience external oiling of plumage and subsequent loss of ability to waterproof and float; ingest oil or oily food items; or suffer reproductive impacts. Primary impacts of oil include: hypothermia, resulting from loss of insulation capability of feathers; loss of floatation, dehydration, gastro-intestinal disorders and/or hemolytic anemia resulting from ingestion of oil through preening or foraging; pneumonia resulting from inhalation of volatile vapors; skin and corneal irritation from direct contact with oil; and reproductive impairment, since eggs contaminated with oil during incubation may suffer embryo mortality (Leighton, 1990). Secondary effects associated with the capture/treatment operations include various infectious diseases, pododermatitis, joint swelling and keel lesions (Tseng 1993).

Response Plan Training Needs

At a minimum, migratory bird response personnel at a supervisory level should be provided with the following training:

* Contents and use of Wildlife Response Plan, Area Contingency Plan, and the Incident Command System
* Guidance on federal and local laws and regulations that apply to the handling, capture or "taking" of migratory birds including the need for Federal and local permits
* Guidance on the roles and responsibilities of federal and local agencies as well as the responsible party and contractors
* Guidance on zoonotic diseases and wildlife related injuries
* Marine safety and boat handling
*Standard first aid/CPR

II RESPONSE STRATEGIES

A. Primary Response

1. General Considerations

Primary response strategies should be emphasized for migratory birds because of their sensitivity to oiling and stress. Primary response for protecting migratory birds from and oil spill is to prevent oil from reaching areas where birds are concentrated (see sensitive area maps and local knowledge).

These areas include migration stopovers (staging areas), nesting colonies (active during certain times of the year), feeding areas, wintering areas, and coastal habitats such as mangroves, saltponds, backreefs and lagoons.

Migration stopovers or staging areas are locations where migratory birds congregate during the spring and fall migration. Shorebirds and waterfowl gather at lagoons, saltponds and salt flats to feed. Puerto Rico and the Virgin Islands are migratory bottlenecks along the eastern flyway and are a critical stop over for many of these migratory species.

Seabird colonies can range from a few dozen pairs to several hundred depending on the species. Some birds nest all year round, while others such as terns have a specific nesting season. Birds are particularly vulnerable to oil contamination when they are in large flocks on the water near the colony. High priority should be given to colonies containing rare species, or multi species colonies.

Seabird feeding areas usually occur at sea, away from land and are often concentrated in small areas. As a result, an oil slick in some feeding area could contaminate the majority of the seabirds in a region. Feeding areas shift with the tides, currents and season; the position of large flocks of birds wheeling, fluttering or diving in the water should be carefully noted during all reconnaissance flights.

Wintering areas of birds vary; locations of large flocks should be recorded during all reconnaissance flights for consideration during the spill response.

In addition, important coastal habitats such as flats, saltponds, mangroves and lagoons are sensitive to oil contamination and should be protected even when no birds are present to prevent future contamination when birds arrive in those areas.

2. Carcass Retrieval

For all spills a primary response goal is to prevent continued or additional contamination as a result of predation. All bird carcasses should be retrieved to prevent secondary oiling in accordance with spill incident specific instructions and delivered to collection or morgue sites as directed by the FWS Spill Response Coordinator or local Trustees. Each carcass will be collected following chain-of-custody protocols should be accompanied by a chain-of-custody form or tag containing the following information:

- Date
- Species
- location found
- name of vessel or point of contact

Chain-of-Custody Record: all migratory birds that die as a result of contact with exposed oil represent evidence of a potential violation of the Migratory Bird Treaty Act. As such, each bird carcass must be labeled with an Evidence Seizure Tag provided by the USFWS Division of Law Enforcement, or other law enforcement agency, through the designated USFWS representative. The bird carcasses are then delivered to a central, secure, evidence storage area and a Chain-of-Custody record completed.

Forms should be kept in a plastic storage bag for protection, indelible ink or pencil should be used for all labeling. If the carcass is not retrieved, a form should be filled out stating this and submitted. Individual carcasses should be wrapped in foil to prevent contact with plastic bags. The carcasses should be double bagged. Carcasses should be kept cool, but not frozen during transportation to the collection point. FWS Law Enforcement will coordinate carcasses for necropsy and long term storage of carcasses.

Natural Resource Trustees designated as Damage Assessment personnel will coordinate with those responsible for maintaining Chain of Custody record for specimens required for law enforcement and the Natural Resource Damage Assessment process.

Additional information on carcass retrieval is found in Best Practices.

3. Skimming

Generally, initial response for recovery of spilled oil is to mechanically collect it. Skimming vessels may be capable of recovering oil over large geographic areas of the spill zone if conditions are appropriate. These vessels may be positioned to recover oil before it reaches sensitive areas. Skimmers should be careful to maintain an appropriate distance from bird colonies to avoid unnecessary disturbance.

4. Boom

Migratory bird sensitive areas may be boomed using shoreline exclusion or diversion booming techniques. Boom should be placed to prevent the flow of oil into sensitive areas and at sufficient distance to avoid disturbance during maintenance.

Shoreline diversion booming is used to divert a spill from an area occupied by migratory birds to a less sensitive area or open water.

Shoreline exclusion booming involves anchoring boom between two or more stationary points to prevent oil from entering an area occupied by migratory birds.

Pipeline spills that enter lakes, rivers, and streams should utilize booming and diversion methods to get oil off the water and into non-sensitive areas accessible to cleanup crews.

5. Trenches and Berms

During spills, if terrain permits, earthen berms or trenches may be constructed to contain oil around the leak. Dikes filled with sorbent material may be used on spills in smaller streams or guts.

6. In-situ Burning (ISB)

The request for ISB is approved by the Federal On Scene Coordinator (FOSC) following the current ISB policy for the Caribbean. The Natural Resource Trustees concur with ISB as a response strategy if impacts from burning are less harmful to humans and wildlife than impacts of the non burned oil. All wildlife in the proposed burn area must be identified by qualified biologists or observers prior to concurrence of the ISB.

In most instances ISB of spilled oil is preferable to potential oiling of fish and wildlife resources. Short term effects associated with burning are preferable to long term effects associated with oiled migratory birds, other wildlife and their habitats.

Prior to burning and throughout the effort, birds within the burn area should be hazed or captured if they become contaminated.

7. Dispersants

The request for dispersant use will follow the current Dispersant Use Plan for the Caribbean. The Natural Resource Trustees concur with dispersant use as a response strategy if the associated impacts are less harmful to humans and wildlife than the impacts of non dispersed oil.

All wildlife in the proposed area must be identified prior to concurrence. Approved dispersants can be used to accelerate the natural dispersion process by weather/wave action.

Prior to the application of dispersants and throughout the effort, birds within the area should be hazed or captured if they become contaminated.

The application of dispersants over large concentration of birds should be avoided. Dispersants wash the natural oils off their feathers, altering feather geometry, reducing insulation and buoyancy. After dispersants mix with water, the danger to birds is reduced, but not entirely eliminated.

B Secondary Response

1. General Considerations

Secondary response to protect birds from an oil spill is to deter them from the slick or contaminated habitat. In many cases, birds must be deterred frequently and repeatedly. There are instances where this may not be feasible. In a broad expanse of water or if diving birds are at risk, deterrent techniques may have limited success. However, deterrence of birds from the immediate spill area or adjacent sites should be attempted whenever possible.

All hazing of migratory or endangered birds must be performed in coordination and consultation with the FWS and local Natural Resource Trustees.

2. Deterrents

Use of deterrents (auditory, visual, herding etc.): As a means to either attract or disperse birds requires careful consideration to prevent driving them into oiled areas. Deterrent methods are most likely to be effective when used in combinations (Koski and Richardson, 1976)

A number of factors must be considered in determining locations for placement of deterrent equipment. Oil will spread throughout and move with wind and currents. Time may not permit coverage of all bird use areas which have the potential to become oiled.

Selection of areas for the use of deterrent techniques should be based on a species status and the effectiveness of the deterrent method. Some deterrent methods may not be advisable in populated areas due to noise or safety risks.

Deterrent methods are most effective when birds are concentrated; however, if alternate feeding, staging, or breeding habitats are not available, some mortality may be inevitable. These devices and methods are generally grouped into visual and auditory or a combination of both. The appropriate method depends on the species involved, the surrounding environment and the spill situation.

Visual deterrents include:
Reflectors, Flags, Balloons, Kites, Smoke, Scarecrows, and Predator Models

These methods have been proven effective in some cases but not in others (Koski and Richardson, 1976). Visual deterrents should be used in combination with other methods for maximum effectiveness.

Auditory deterrents include:
Propane Cannons, Alarms, Noisemakers

Propane cannons have varying effectiveness depending on the bird species, and are only effective for a short period of time (two-three days). It is necessary to vary the interval between explosions of the cannons on a daily basis and relocate the cannons on a regular basis. Maintenance of the canons needs to be done on a regular basis to assure continued benefits.

Alarms come in two types. AV alarms broadcast a variety of synthetic sounds and are effective against water birds in coastal areas (Koski and Richardson, 1976). Recorded alarm or distress calls are effective only on the species which is in the recording (Koski and Richardson, 1976).

Noisemakers such as shotgun or shell crackers are effective deterrents when used in combination with other methods. They can be labor intensive, but also provide surgical point deterrence on an as needed basis.

It must be noted that hazing of nesting seabird colonies with aircraft may cause adults to abandon the nest. Hazing of nesting seabirds should **not** be attempted; many of these bird species tend to abandon the nests if stressed.

C. Tertiary Response

Additional details on all aspects of Tertiary Response are found in Best Practices.

1. General Considerations

Tertiary response is the capture and treatment of birds contaminated by oil. The components of tertiary response are capture, handling, transportation, treatment, holding and release of rehabilitated birds. FWS and local Natural Resource Trustees will have oversight for all phases of tertiary response.

Under the Migratory Bird Treaty Act and the Endangered Species Act, the FWS and Commonwealth or Territorial Wildlife Agencies are authorized to capture, handle and do whatever is necessary to protect migratory birds in the event of an emergency such as an oil spill. This authority can be sub-delegated (in writing) to contractors during an oil spill. Pre-authorized permits to handle or take migratory birds are available to approved contractors. All response activities involving migratory birds must be performed in coordination with the FWS Spill Response Coordinator and local Trustees.

Threatened and endangered species will receive priority for treatment if they are determined by an attending veterinarian, FWS and local Trustee to be "saveable".

2. Capture

Once approval for the capture of oiled birds is obtained, it will be attempted only by qualified personnel. FWS/Trustee oversight of the capture operations will be conducted by qualified personnel in cooperation with RP response personnel.

Safety of personnel must be afforded the highest priority throughout bird capture, treatment, holding and release operations. Capture operations will not be conducted when weather, sea, or any other conditions jeopardize human safety. Handling of birds should be conducted by qualified trained personnel. All handlers should have their tetanus shots current.

Migratory birds are susceptible to stress associated with capture operations. Stress is minimized by:

- ♦ reducing handling, noise and visual stress
- ♦ ensuring proper thermo regulation don't let them over heat.

♦ avoiding over crowding of birds in all phases
♦ providing adequate nutrition and water

As they lose their waterproofing, oiled birds try to move to shore. First they attempt preening, later they seek cover. Birds in this condition can be retrieved by capture teams. Retrieval crews should work just before dawn to be more effective. Birds can be captured using nets, or towels. Slightly oiled birds should not be chased. Chasing may drive them into oily water or cause exhaustion and death.

Each bird should be accompanied by a form containing at least the following information:

♦ Capture personnel
♦ Date, time, location of capture (GPS)
♦ Technique used to capture
♦ Amount of oil in the area
♦ Behavior at capture (lethargic, comatose, aggressive, etc.)
♦ Description of bird, species, sex, marks

Upon arrival at the cleaning station, birds should be examined by a veterinarian or other qualified personnel. Initial treatment may be performed upon arrival or at the capture site if remote and qualified personnel are available. Initial treatment includes:

♦ cleaning mouth and nostrils of oil
♦ rehydrating bird
♦ checking for signs of toxicity such as tremors, red skin, etc.
♦ placing a rag over the birds head to calm it down, attempt to keep it from preening to avoid preening and ingestion of oil
♦ placing birds into transport containers and avoid disturbance as much as possible.

3. Handling

Once a bird is captured it must be transferred to a transport container as soon as possible. Handling should only be conducted by qualified personnel. Handling consists of:
♦ Restraint
♦ Triage (initial assessment of condition and prioritization of emergency care)

- Treatment for proper thermoregulation, keep bird cool
- Feeding
- Preparation for transport

Once birds are captured, restraint is accomplished by removing the bird from netting and placing towels or sheets over the head of the bird. Wings must be folded normally against the body. A bird can be secured against the responder's abdomen at waist level. Care should be taken to avoid sharp or serrated bills found on seabirds and wading birds. The most important consideration is to restrain the head firmly without causing injury, in addition raptors should have their legs secured and should be handled only by qualified personnel.

Birds should be handled only when necessary for treatment, they should always be held at or below waist level and away from the face.

4. Transportation

Transportation time should be minimized whenever possible. After capture birds should be immediately placed in ventilated carriers such as cardboard boxes or portable pet kennels. Social, nonaggressive birds can be placed with one or two others but aggressive species such as cormorants should be individually housed. Birds should be monitored for hyperthermia (overheating) during transport.

5. Treatment

Treatment of oiled birds involves two primary focuses; facility operation and administration; and bird care, including assessment, cleaning and husbandry.

a) *Facility Operation and Administration*
Facilities are best located in the proximity of the capture operation. Captured birds should receive medical evaluation and treatment by trained personnel as soon as possible. In addition, the design of the facility must be conductive to reducing the possibility of disease introduction and transmission. Facilities should be sufficient to accommodate expected number of birds (six square feet per bird) and have specialized areas for:

- Triage
- Cleaning and rinsing
- Drying

- Recovery/critical care
- Holding pens/pools
- Veterinarian clinic
- Husbandry facilities

Triage is where oiled birds, upon arrival, are brought for initial examination, medical stabilization, and weighing prior to cleaning.

Cleaning and rinsing requires access to approximately 10-25 gallons of warm water per bird (International Bird Rescue Research Center, 1978). Most birds can be washed in ten-gallon tubs, children's wading pools, or sinks. One of the most common cleaners used is "Dawn" dishwashing detergent; however, any common detergent can be used. Under no circumstances will solvents or other hydrocarbon based cleansers be used to clean birds.

Drying areas should have commercially available pet dryers or heating lamps.

Holding pens should be established indoors until birds are able to thermoregulate and can be moved outside. Clean, dry bedding is essential to prevent recontamination, infections and pressure sores.

A veterinary clinic is necessary to treat medical problems. This area should be established and stocked before the treatment effort. The RP or response contractor should provide the necessary supplies and equipment.

Husbandry facilities should include a food preparation area, freezer, sink space and tables.

FWS requires that the facilities contain a morgue as well as a quarantine area where birds can be held until checked for transmissible diseases and all cages can be cleaned and sanitized.

The facility should be located in an area where staffing accommodations are available or can be provided. Staff size will depend on number and health of birds but should be large enough to provide 24 hour care for birds.

No one other than qualified personnel will be allowed in the facility.

Public relations efforts or media tours should be minimally conducted to reduce bird disturbance, cameras with flash or bright lights will be permitted only with prior approval of the Trustees and facility operator. Press conferences should be held away from captured birds. All areas should be well ventilated; wastewater and generated waste should be treated according to local and federal regulations.

b) *Bird Care*
Upon arrival at the treatment facility, each animal will go through assessment and triage. This is the process that determines whether each admitted bird requires:

- Treatment and cleaning
- Quarantine for prevention of disease transmission
- Additional holding for treatment of medical disorders
- Euthanization

When large numbers of birds need treatment it may be necessary to first treat those that have the best probability of survival or high priority birds such as endangered species.

A record should be established for each bird; birds should be identified with a temporary leg band and given a complete physical examination including temperature and weight. Any birds exhibiting signs of disease should be quarantined immediately (International Bird Rescue Research Center, 1978).

Clumper (1990) identified cleaning of birds as three-step process involving washing, rinsing, and husbandry of birds. He found that water hardness has an effect on waterproofing birds. Initially, oil is removed from the bird's nares and oral cavity with clean gauze or cotton swabs. Contaminants are flushed from the eyes by irrigation with warm sterile saline solution. A clear electrolyte solution is administered by stomach tube in an effort to rehydrate the bird while also flushing oil from the gut. Only birds that can maintain a normal head position should be given oral fluids. Cleaning can occur when birds are in the best physical condition possible (normal temperature, hydrated, normal blood chemistry, etc.) If the contaminant is extremely toxic, such as gasoline or jet fuel all but the weakest birds should be cleaned immediately.

Oil is removed successfully by successive detergent baths in warm 40-45° C (104-113°F), soft water (International Bird Rescue Research Center, 1978).
Birds are not scrubbed, but gently cleaned in the direction of feathers. Complete cleaning may not be accomplished in one session if the bird is heavily oiled.

Rinsing is carried out with a combination of spraying and warm tub baths until water beads on feathers and bird begins to look "dry". Incomplete rinsing prevents adequate waterproofing and is a primary cause of failure to rehabilitate.

Large amounts of water are used in these operations and the facility must be able to provide and deal with water needs and disposal.

Drying can be accomplished with commercially available pet dryers or heat lamps. Birds should remain undisturbed in warm pens with food for several hours after cleaning.

Husbandry activities should focus on:
- Low disturbance/noise
- Correct handling
- Proper thermoregulation of bird (24-27°C is considered normal)
- No overcrowding
- Correct schedule of light/dark
- Prevention of dehydration by giving fluids orally until the bird can swim
- Correct nutrition (fish diet, etc.)
- Clean bedding and recovery areas

All decisions regarding health of each bird will be made by the attending veterinarian in consultation with FWS and the local Trustees. In some cases it may be necessary to euthanize a bird. The FWS and local Trustees approve euthanasia if it is deemed necessary by the attending veterinarian and the bird exhibits the following:
- Consistently low body temperature (< 38°C for more than 6 hrs.)
- Extreme emaciation
- Signs of disease
- Traumatic injury

(International Bird Rescue Research Center, 1978)

Threatened or endangered species should be euthanized only if there is absolutely no chance for survival, even in captivity, and must be with the consent of the on-site veterinarian, FWS and local Trustees.

6) ***Holding***

Newly washed birds should be placed in clean holding pens and given access to food and water. Cushioning is necessary for diving birds and other species that are not too mobile on land. Appropriate perches should be providing for raptors and other perching birds. Some cleaned birds such as waterfowl need an active swimming program to re-waterproof their plumage.

Begin with short, intermittent swims at first and gradually increase time in water until they behave and thermoregulate normally. Pool size and configuration varies with number and type of bird. Misting may be used to stimulate preening in nonaquatic birds.

Treated birds are monitored for abnormal droppings, loss of appetite, depression, or disease. Any bird exhibiting these conditions should receive appropriate treatment by qualified personnel. Any indication of infectious disease precludes bird release into the wild. Once waterproofed, bird feathers exhibit diamond-like beading of water on their feathers. Seabirds need to be preconditioned before release to stimulate salt gland function. Using a saltwater pool or adding salt to the diet will accomplish this.

7) ***Release***

The purpose of release is to return treated birds to the wild as soon as possible in areas where they have the best chance for survival. Releasable birds should be waterproof, able to eat and physically use legs and wings. In addition, seabirds must be able to tolerate salt. Birds should not be released during severe weather or in areas where they may get recontaminated.

All released birds should be banded with an appropriate FWS band. Banding should be carried out by a FWS permitted biologist.

Same species birds should be released in groups early in the day. Monitoring should be carried out as much as possible. Marking with dye can ease detection.

There are no bird rehabilitation organizations in Puerto Rico and the Virgin Islands. However, there are local veterinarians and volunteer groups willing to provide this service. FWS and the local Trustees have provided a list of qualified personnel as an appendix to this document and additional names can be given to the FOSC or the RP upon request. It is the responsibility of FWS in conjunction with the local Trustees to insure proper selection of bird rehabilitators for oil contaminated birds.

Oversight of all phases of the operation remains with FWS and the local Natural Resource Trustees.

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Leighton, FA 1990. The toxicity of petroleum oils to birds: and overview. 1990 Oil Symposium. University Saskatchewan, Saskatoon, Canada

Tri-State Bird Rescue and Research, Inc. 1990. Oiled Bird Rehabilitation: A Guide for Establishing and Operating a Treatment Facility for Oiled Birds

Tseng, FS 1993. Care of oiled seabirds: a veterinary perspective. 1993 Oil Spill Conference. International Bird Rescue Research Center, Berkeley California 4pp

U.S. Fish and Wildlife Service, 2003, Best Practices for Migratory Birds during Oil Spill Response

List of possible Rehabilitation Contractors in Puerto Rico & USVI

Puerto Rico
Dr. Debra P. Moore
Tel. 787-899-1531
Dr. Juan Torres, Humacao
Tel. 787-774-2206
Dr. Jose Vientós
Tel. 787-784-8916

Dr. Jose Delgado, Fajardo
Tel. 787-860-5237

Dr. Cesar Ruiz
Tel. 787-281-8702
Dr. Jose Vega US Army Vet
Services
Tel. 787- 865-2000 ext. 3438
Dr. Pedro Frontera
Tel. 787-225-3316

DNER Rangers
Tel. 787-724-5700

US Virgin Islands
St. John
Phyllis Benton 693-5315; 514-8435
Dr. Jan Perkins 715-3192; 626-7929
Dr. Laura Palmintieri 693-7780
Laurel Brannick – NPS – 776-6201 x257 – she is also a contact for the VI Audubon Society

St. Thomas
Dr. Jack Boden – Imperial Animal Hospital – 774-7034
Dr. Williamson – 775-3240
Humane Society – Annabelle Hintz – 775-0599; 642-7873
Coral World – Erika 717-329-1643 or Lee Keller 690-3551 (they have a small animal hospital there)

St. Croix
Toni Lance – 773-1839; 332-6034
Other veterinarians on ST Croix:
Dr. Hess 718-3106
Progressive Vet Hosp. 718-1256

Hazardous Substance Incident Annex

Introduction

[Link to the Oil and Hazardous Materials Incident Annex in the NRP]

In accordance with the National Response Plan and the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) the Coast Guard will serve as the Federal On-scene Coordinator (FOSC) for actual or potential releases of hazardous substances[1] within the coastal zone that would:

- Impact public health and safety AND
- Enter the environment and originate from:[2]
  - Vessels or facilities

Purpose

This Annex is written to provide initial response guidance upon notification of a hazardous substance release in the coastal zone, which may have actual, potential, or perceived consequences to public health or the environment.

If the hazardous substance release is suspected or confirmed to be the result of a terrorist act, response to the incident should be initiated using this Annex, the Terrorism Incident Annex and the Area Maritime Security Plan. (These Annexes are under construction)

Jurisdiction The Coast Guard is the Federal On-scene Coordinator for any hazardous substance releases in the coastal zone that require emergency removal actions with the exception of incidents that:

- Occur from vessels or facilities owned, operated, or controlled by the Department of Defense (DOD) or Department of Energy (DOE)
- Are *non-emergency* removal actions of hazardous substance releases from vessels or facilities owned, operated, or controlled by Federal agencies *other than* the DOD or DOE

[1] The term hazardous substance is defined in CERCLA § 101. A list of hazardous substances can be found in 40 CFR 302.4

[2] The term *facility,* as defined under CERCLA Section 101(9), encompasses virtually any entity except vessels "where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise came to be located." This includes buildings, shipping containers, drums, vehicles, aircraft and drainage ditches. If hazardous substances were released from a vessel and sank to the bottom of the Delaware River, the vessel would not be considered a *facility*, but the affected area of the river bottom where the hazardous substance has accumulated would be considered as such.

Under CERCLA the Coast Guard Incident Commander (acting under their FOSC authority) has the authority to:

- Initiate a time critical assessment of the threat
- Take the necessary steps to stabilize or control the immediately identified potential threat
- Begin activating Federal scientific support agencies necessary to conduct an assessment (air, water, soil, or specific substance sampling in accordance with the relevant published sampling protocols and guidelines)
- Initiate a response

Coast Guard Incident Commander Considerations

In most hazardous substance cases the On-scene Incident Commander will be from the local fire department or other local, county, or state agency. The Coast Guard Incident Commander's role is to:

- Determine if the incident requires the initiation of the Critical Incident Communications procedures
- Determine if appropriate local authorities are managing the response in a timely manner. (Fire departments are normally lead agencies) and assess their need for Federal assistance

If the response is being managed properly, provide Federal support as necessary to the on-scene Incident Commander through:

- Opening the CERCLA fund
- Activating Basic Ordering Agreements with contractors
- Providing technical support
- Deploying Coast Guard resources as needed (Gulf Strike Team, vessels or aircraft)

If the response is not being managed properly by the Responsible Party[3] or is not managed in a timely manner, one of the following orders may be issued:

- An Administrative Order issued under CERCLA for "hazardous substance" releases when the FOSC has determined that there may be an imminent and substantial endangerment to the public health and welfare or the environment. The FOSC must be reasonably certain that the party to whom is issued is in fact the responsible party [Link to Example of a CERCLA Admin Order]
- Captain of the Port Order[4] issue to insure the safety of vessels and waterfront facilities, and the protection of the navigable waters and the resources therein.

[3] The owner and/or operator of a vessel or a facility. See 42 USC CH 103 Sec. 9607

[4] See 33 CFR 160.101-109

In the event that the Responsible Party:

- Cannot be identified, located, or contacted in a timely manner, or
- Is either unwilling or unable to take responsibility and initiate removal actions, or
- Is conducting removal actions which are inadequate, unsafe, and/or pose a hazard to public health and/or the environment, or
- Other agencies have not responded or are not available

Then: Commander Sector San Juan will determine whether to federalize the removal actions. If federalized, the following actions should be taken:

- Engage in a coordinated and prompt response (The general rule for CERCLA is "First make it safe, then determine the extent of the hazard and Federal removal authorities")
- Contact the appropriate state agency:
  - Puerto Rico State Emergency Management Office (PRSEMA)
  - Puerto Rico Environmental Quality Board
  - Virgin Island Territorial Emergency Management Agency (VITEMA)
  - Port Authorities at Puerto Rico and USVI
- Contact local/state authorities to secure the scene and establish exclusion zones
- Access CERCLA funding
- Consult the Base Plan for further Incident Commander actions
- Conduct a removal site assessment to include:
  - Identification of the source
  - Determination of the threat to public health (resources that can assist with this determination include)
  - Agency for Toxic Substance Disease Registry (ATSDR)
  - Local, County, State and/or Tribal (If applicable) public health officials
  - Evaluation of the magnitude of the threat
  - Determination if actions have been taken to mitigate the release
  - Determination if there is potential of further release
- Designate the Potentially Responsible Party(s)
- Determine when removal actions are complete
- If the site requires continued cleanup under the remediation phase, AND IS NOT A VESSEL, transfer the role of OSC to EPA Region II as appropriate

Circumstances where the Coast Guard can Transfer OSC to the EPA

The most common circumstances under which the Coast Guard OSC would transfer OSC responsibilities to the EPA for action are when:

- The release originates from a Hazardous Waste Management Facility
- The release does not require an immediate removal action
- The site assessment determines that:
  - The release does not require immediate removal actions

  - Remedial actions are necessary to complete the cleanup
- The threat of further release has been eliminated, prior to the completion of the cleanup.
- Coast Guard policy requires that removal be secured when prompt action is no longer necessary and substantial remediation methods must be used to completely remove the remaining contamination.

When requesting a transfer of the OSC authority a "Statement of Agreement Transferring Federal On-Scene Coordinator Responsibility" shall document the transfer of authority. Statement of Agreement Transferring Federal On-Scene Coordinator Responsibility

Under normal circumstances, the CG will not transfer OSC authority to the EPA whenever the source of a release is a vessel.

Notification

If the Coast Guard is receiving the initial notification:

- The information will be recorded by Sector San Juan Watch stander
- Notify PR State Emergency Management Agency (SEMA), Environmental Quality Board (EQB) and/or US Virgin Island Territorial Emergency Management Agency (VITEMA)
- Contact the National Response Center (NRC)
- Contact appropriate local communications centers to activate local notification protocols

Dispatching Initial Coast Guard Response Personnel

Safety *is* ***always the primary consideration*** when the determination is made to dispatch response personnel. Prior to dispatching personnel ensure that the following are completed:

- Obtain information on the hazardous substance (consider the following potential sources of information);
  - Responsible Party (RP)
  - Reference material sources (list not inclusive):
    - CHRIS Manuals COMDINST 16465.12
    - Safety Data Sheet (SDS)
  - Department of Transportation' s Emergency Response Guidebook
  - NIOSH Pocket Guide
  - Atlantic Strike Team Support
- Collect existing and forecast environmental conditions (wind direction, speed, precipitation, temperature, inversions, etc)
- Determine nature of safety risk to responders consistent with environmental conditions. For example:
  - Inhalation hazards are directly related to wind conditions & inversions

  - Some chemicals, such as concentrated acids, react violently with water
  - Vapor pressure and off-gassing increase with temperature
  - Skin contact Hazards
- ❑ Determine, if established, the location of the Incident Command Post (ICP)
  - If there is no ICP established, contact appropriate local authorities to isolate the hazard and establish a properly located and safe ICP
  - If locals are unable to isolate and/or control the hazardous substance release contact the Gulf Strike Team to make entry and determine the exclusion, contamination reduction zone, and safe zone
- ❑ Get directions to the ICP that provide a safe approach to prevent inadvertent entry into a contaminated area – and check the approach against your own assessment of wind direction/speed
- ❑ Maintain an Evacuation Plan for changing conditions such as wind and weather related problems
- ❑ Conduct an operational risk assessment to evaluate safety concerns using either:
  - Green/Amber/Red (GAR) Model
  - Operational Hazard Work Sheet
    - [Link to ICS Compatible Site Safety Plan]
- ❑ Ensure appropriate protective equipment is available
  - Emergency Escape Breathing Apparatus (EEBA)
  - Appropriate respirator and cartridge
  - Toxi-clip
  - Oxygen meter

Actions upon Arriving On-scene

- ❑ Meet with the On-scene Incident Commander at the Incident Command Post
- ❑ Determine the extent of the emergency (hazards) and actions taken to mitigate
- ❑ Determine with IC, any need for Federal assistance
- ❑ Meet with PRP representative on scene and determine willingness to conduct removal actions on behalf of FOSC
- ❑ Obtain and record the following information on the unit's Hazmat Incident Response Form
  - Information on site security and control
  - Availability of Emergency Response Plan
  - Availability of Site Safety Plan
  - Available and/or on scene Hazardous Materials response teams
  - Appropriate use of personal protective equipment
  - Air monitoring procedures
  - Cleanup and disposal procedures

For all Federalized Removal Actions (at a facility or on a vessel)

The Unified Command should consider the following priorities, objectives and determinations when responding to a hazardous substance release.

Unified Command Priorities

- Responder(s) safety
- Rescue of victims of the incident
- Source Control / Incident Stabilization
- Public safety/hazard mitigation
    - Protection from direct exposure, possible evacuations (evacuation determinations are generally a local government decision)
    - Protection of water intakes
    - Protection of underground drinking water aquifers
    - Consider neutralizing agents prior to cleanup
- Removal, decontamination and treatment of injured or potentially exposed personnel
- Environmental cleanup/restoration
- Proper transportation, storage and disposal of contaminated debris & waste

Unified Command Considerations for an Incident Involving a Vessel

- Determine need to triage, treat, transport, decontaminate, and/or evacuate passengers and non-essential crew
- Establish a safety zone
- Vessel stability (ACP Section 4410.7)
- If vessel is underway, consult with states to determine whether to bring the vessel into port
- Determine if Safe to Respond
- If vessel is on fire, consult the Marine Fire Fighting Plan (Marine Fire Fighting Plan Annex A)

Unified Command Organization

The information in Figure 1 represents agencies that may support a hazardous substance release response operation and where they may potentially work in a Unified Command organization. If there is a suspected or actual terrorist threat associated with the incident, then this information should be used in conjunction with the Unified Command organization structure outlined in the Terrorism Incident Annex. (To be developed)

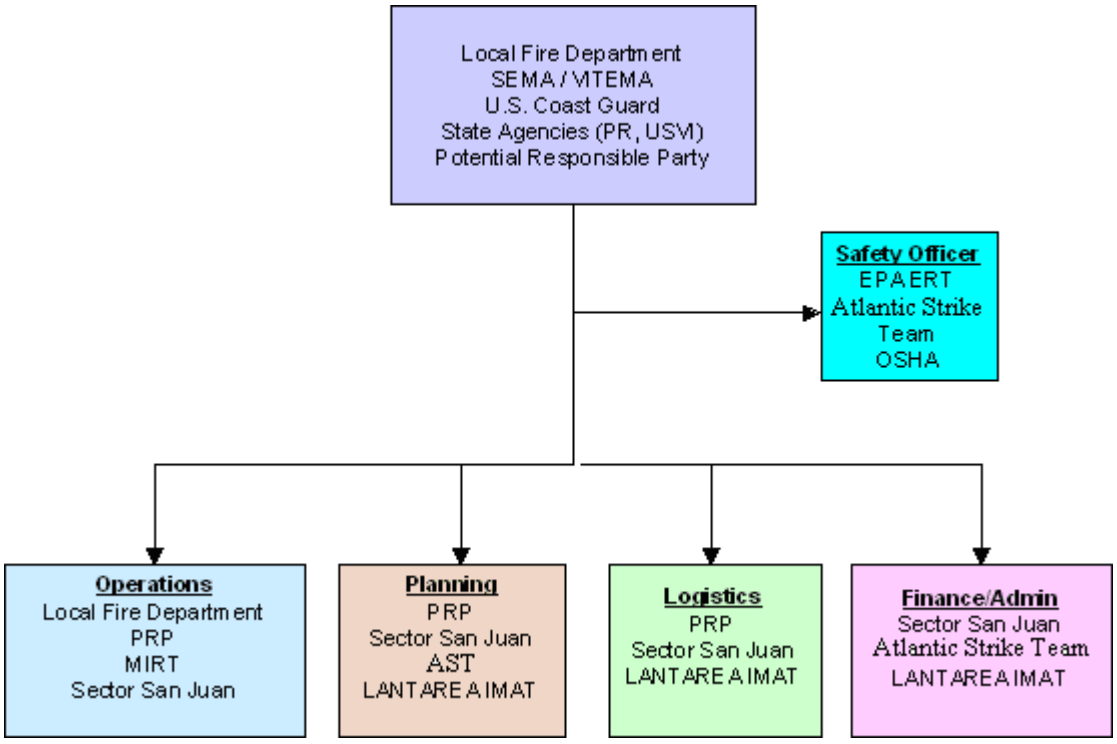


Figure 1. This depicts the potential agencies that may respond to a major hazardous substance release incident in the coastal zone.

Special Teams

The following special teams are equipped to respond to hazardous substance incidents, and should be considered as potential response resources:

- EPA Environmental Response Team (ERT)
- USCG Atlantic Strike Team (AST)
- OSHA (Region II)
- NOAA
- 22nd and 23rd WMD Civil Support Teams
- ATSDR

Additional special teams can be found in the Special Teams Handbook [Hyperlink to the Handbook]

Oil Spill Incident Annex

Introduction

[Link to the Oil and Hazardous Materials Incident Annex in the NRP]

Response to oil spills can vary greatly, involving only a few people or thousands. The initial action taken by responders sets the tone and direction of the response.

Purpose

The purpose of this Annex is to facilitate the rapid establishment of a multi-agency and responsible party incident command team to respond to an oil spill occurring in the coastal zone. This Annex should be used in conjunction with the base plan.

The guidance in this Annex includes:

- Unified Command Organization
- Unified Command Objectives
- Considerations of the Coast Guard Incident Commander/Unified Command
- Operations Section
- Operations Section Chief Responsibilities
  - Protection Group
  - Oil Recovery Group
  - Submerged Oil Group
  - Decontamination Group
  - Waterways Management Branch
    - Vessel Traffic Management Group
    - Vessel Decontamination Group
      - Cleanup Assessment Team Supervisor/Decon Taskforce
    - Survey Group
    - Safety Zone Group
  - Air Operations Branch Director
    - Aerial observation
- Planning Section
  - Environmental Unit Leader Responsibilities
    - Submerged Oil Assessment Team
    - Shoreline Cleanup Assessment Team
    - Wildlife Team
    - Sign Off Team
  - Facility and Vessel Decontamination Prioritization Unit
- Disposal Technical Specialist
- Natural Resource Trustee
- Historic Property Specialist
- Finance Section Chief
- Logistics Section Chief
- Special Teams

Unified Command Organization

The make-up of the Unified Command organization for an oil spill response is usually comprised of the U.S. Coast Guard, Puerto Rico Environmental Quality Board (EQB), Puerto Rico State Emergency Management Agency (PREMA), Puerto Rico Department of Natural and Environmental Resources (DNER), Virgin Island Territorial Emergency Management Agency (VITEMA), and the Responsibility Party. Figure 1 is an illustration of the agencies and/or entities that could serve in the Unified Command and General Staff. The list of agencies is not exclusive.

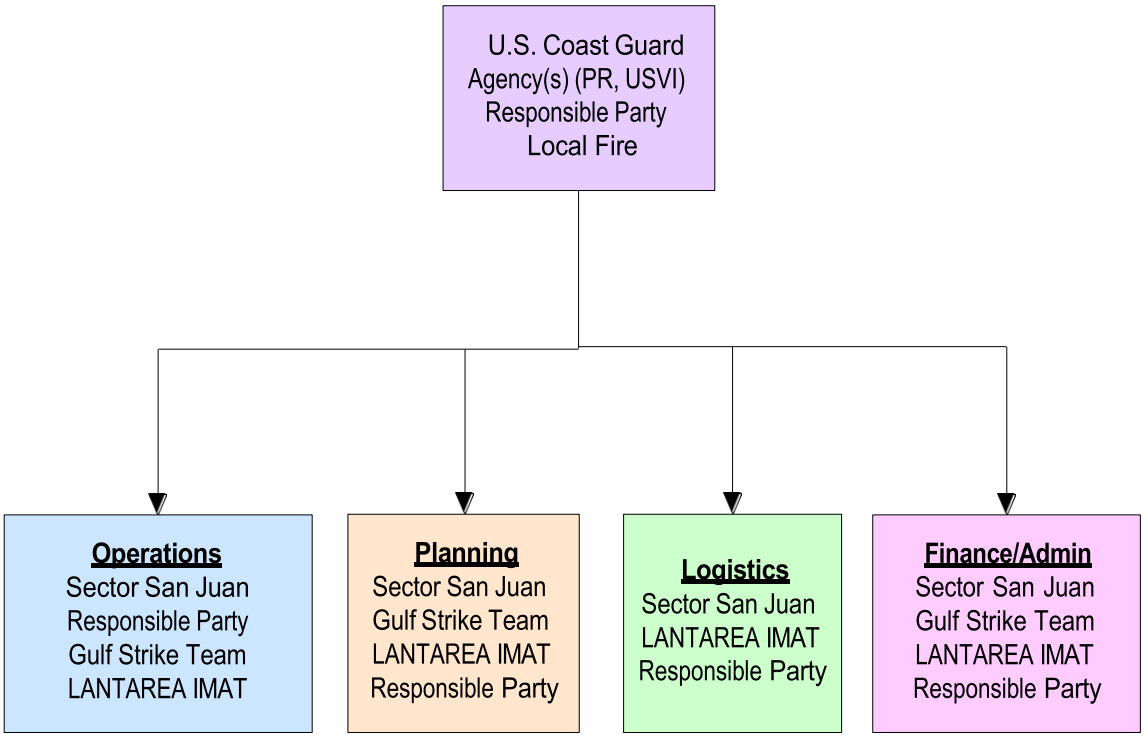


Figure 1. This is a generic incident command organization for an oil spill response.

Unified Command Objectives

- Safety is of paramount importance
  - All operations will be performed in accordance with approved safety plans
  - Establish and enforce safety zone(s)
  - Notify and protect water intakes
- Maximize protection of environmentally sensitive areas including wildlife and historic properties
  - Ensure actions are underway to control the source and minimize the volume released
  - Assess the location and extent of oil impact

  - Deploy and monitor pre-identified booming strategies to protect sensitive areas
  - Ensure effective containment, cleanup, recovery, and disposal of spilled product
  - Determine if submerged oil is present and respond accordingly
- Facilitate Maritime Commerce
  - Return port to normal operations as soon as possible (i.e.: Salvage plans for vessels, pipeline repair plan, and facility repair plan, etc.}
  - Facilitate vessel movement in the affected port area
  - Expedite the decontamination of commercial vessels
- Cleanup environment to the satisfaction of stakeholders
  - Conduct pre-impact beach clean-up
  - Conduct aggressive shoreline cleanup and disposal operations
  - Recover and rehabilitate injured wildlife

Considerations and Actions of the Coast Guard Incident Commander (CGIC)/Unified Command:

- Determining Safe to Respond
- Establishing a safety zone
- Under the Endangered Species Act
  - Notify the Regional Response Team representatives of the Department of Interior and Department of Commerce regardless of whether listed species or critical habitat
  - If listed species or critical habitat are present or could be present, initiate an emergency consultation with the United States Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS)
  - Document any written or oral communications that involve decisions on endangered species or critical habitat
  - Notify the USFWS and NMFS representative on the incident command team of any response situation changes that may impact endangered species or designated critical habitats
  - Ensure that response strategies and tactics are planned to minimize damage to endangered species and designated critical habitats
  - **Post response:** If listed species or critical habitats were adversely affected by oil spill response activities, a formal consultation is required
- Determining if historic properties will be potentially impacted by response activities
  - Refer to the guidance in Section 1650, Protection of Historic Properties: Oil Discharge and Hazardous Materials Release Emergency Response Phase Checklist
- Determining viability of employing countermeasures
  - Dispersants
  - In-situ burning
- Establishing consultation with the lead Federal Trustee and ensuring close coordination of trustee related activities

- In the event that a Responsible Party decides to no longer fund a response action, consult the guidance outlined in the Transitioning from a Responsible Party Managed Response to a Federal Response

Operations Section

The Operations Section will be organized to meet the needs of the incident. For large and/or complex oil spill response operations the Operations Section Chief may organize as shown in Figure 2.

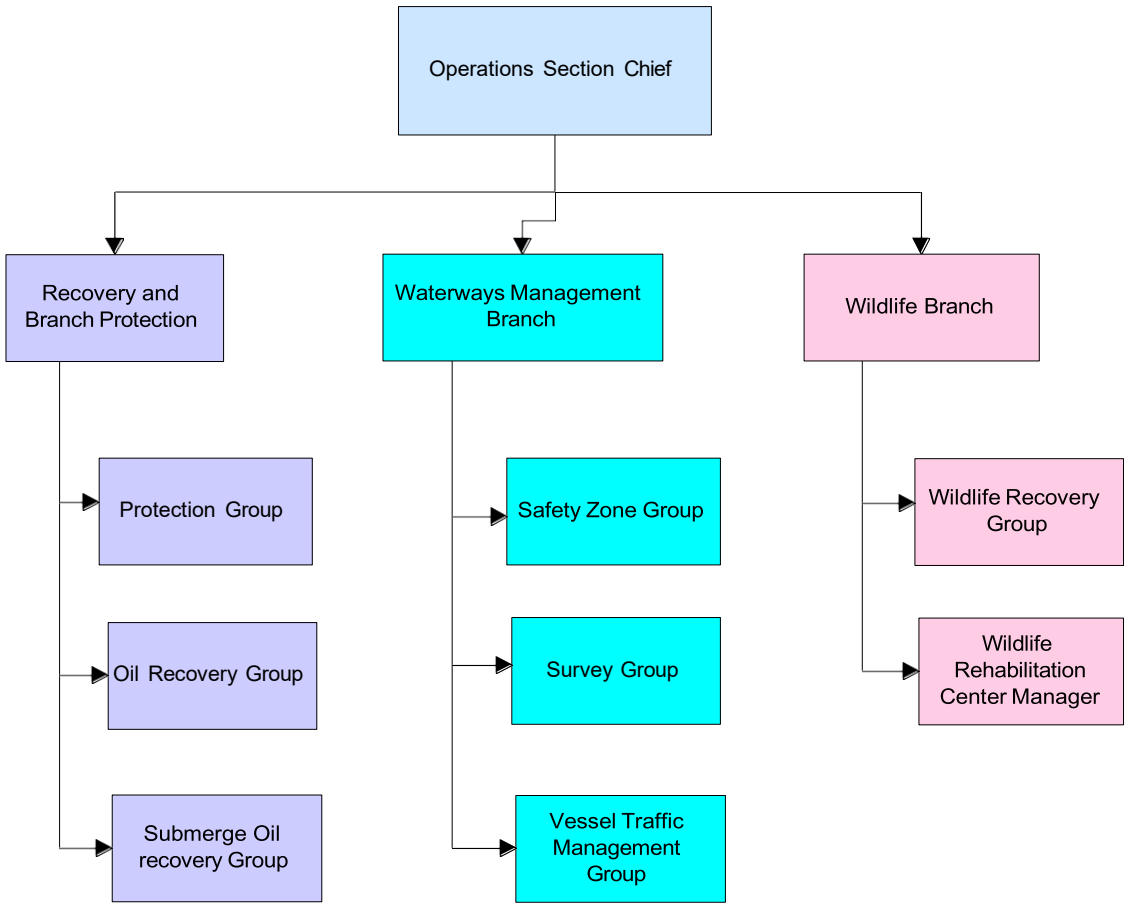


Figure 2. The size and makeup of the Operations Section is dependent on the size and complexity of incident. For a major oil spill the Operations organization may be organized as shown above.

Operations Section Chief

- Responsible for initial assessment
  - Determine location and time of spill, product spilled and amount
  - Determine immediate safety hazards
  - Obtain best estimate of oil movement for next 12 hours based on current weather and tides

  - Identify areas that will be impacted
- Control the source
  - Ensure actions are being taken to control and secure the source
  - If necessary, recommend establishing a safety zone
  - Contain the spill in vicinity of the source
- Implement protective booming strategy
  - Prioritize protective booming
- As needed, establish response branches (Recovery and Protection, Emergency Response, Air Operations, Wildlife)
- Consider conducting pre-impact cleanup of shoreline
- Identify staging areas to be used
- As directed conduct use of Dispersants
- As directed conduct In-situ Burn

Protection Group

- Activate Oil Spill Response Tools (NOAA)
  - Based on location of spill, amount released, weather and other factors determine what areas will be impacted and the time they will be impacted
  - Provide prioritized protective booming list to the Operations Section Chief or Branch Director, if established
- Determine the organizations responding from Responsible Party
- What organization will be doing the protective booming?
  - Where will resources, materials and personnel, come from?
  - Are the personnel familiar with the booming plans?
  - What is the time frame for accomplishment?
- Issue Notice to Mariners for protective boom sites. Make adjustments to broadcast to ensure that the most up-to-date information is provided
- Ensure that boom sites are lighted and tended
- Monitor and maintain the boom sites
- Based on over flight information
  - Determine additional sites that will have to be boomed and establish priorities
  - Identify other potential sites (other than openings to wetlands) that may require protective booming
  - Identify staging areas to mobilize
  - Identify resources to be mobilized (equipment and personnel)
  - Repeat above until no further protective booming is needed
- Determine protective boom sites that can be removed and order same

Oil Recovery Group

- Determine the number of Oil Spill Response Vessels (OSRVs) required and submit request to the Operations Section Chief. Take in account:
  - Those currently on-scene and those that have been ordered
- Obtain dedicated helicopter for on water recovery operations (the efficiency of the on water recovery will be severely impacted without air support)

- Establish communications with helicopter and/or on-water resources
- Obtain latest spill information to verify that the on-water resources are the best location to recover oil
- Determine the adequacy of the OSRVs deployed and look at other resources that might be available
- Look at methods to enhance the recovery operations
    - Look at the possibility of using V-boom to enhance the encounter rates
- Determine the temporary storage required for the spill and type required
- Monitor the location of on-water resources and, if direct air support is not available, provide the OSRVs with the latest observations from any sources and the latest trajectory information to assist in keeping the OSRVs in areas where there is recoverable oil

Submerged Oil Group (established when submerged oil is determined to exist)

- Locate and quantify recoverable submerged oil with remote sensing and or contaminated water divers
- Develop appropriate site safety plan
- Identify required resources based on quantity, viscosity, water depth and temperature
- For large quantities of submerged oil consider:
    - Platform (vessel, barge, etc.)
    - Contaminated water divers
    - Pumping equipment
    - Oil/water separation, decanting
    - Temporary storage
    - Transfer equipment
    - Disposal needs
- Small quantities of submerged oil:
    - Weighted snare or VSORS (Vessel Submerged Oil Recovery System)[1]
    - Diver assisted recovery with viscous oil pom poms

Decontamination Group

- Identify types and amounts of equipment to be decontaminated
    - Large vessels (ships and barges) on water
    - Small vessels (recreational and response vessels associated with the incident)
    - Oil Containment boom
    - Skimmers

[1] VSORS is used to search for and recover submerged mobile oil. It consists of a pipe with attached chains and snares and is towed behind a vessel on the bottom at slow speeds.

- Identify and locate suitable facility for decontamination activities
  - Suitably sized area for decontamination operation
  - Suitable area for staging equipment prior to and post decon
  - Consider location based on public use and access preferably industrial area
- Work with the Safety Officer to develop appropriate site safety plan considering approved cleaning agents (include information on the Material Safety Data Sheet)
- Identify and locate required resources
  - Decontamination pools
  - Pressure washers
  - Pumps
  - Water source
  - Wash water temporary storage
  - Wash water transport to disposal facility in accordance with waste disposal plan
  - Equipment handling (fork lift, crane)
- Develop appropriate tracking and documentation of equipment as it enters and departs decontamination facility

Waterways Management Branch

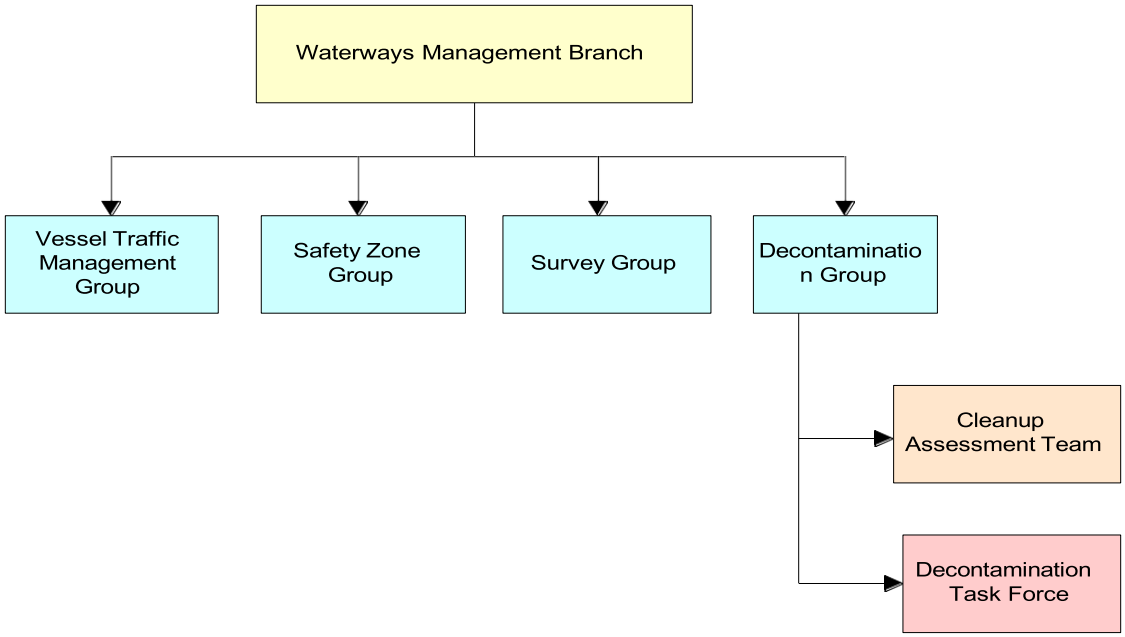


Figure 3. The Waterways Management Branch organization oversees the safe movement of vessels within the established safety zone.

Waterways Management Branch (WMB). The WMB ensures the safe movement of vessels within the established safety zone. Specific responsibilities include:

- Coordinating all vessel arrivals, departures and requests to shift berths

- Establish daily priority list of facilities and vessels identified for decontamination Consult with:
  - The Puerto Rico Pilots
  - The Commercial Facility and Vessel Decontamination Priority Matrix developed by the Planning Section
- Document all Branch activities and decisions

Vessel Traffic Management Group (VTMG). Approves or disapproves vessel transits through the established safety zone. Specific responsibilities include:

- Approve or disapproves vessel movement based on the following criteria
  - Location of oil spill
  - Tides
  - Berth availability
  - Vessel determined to be clean by the Decontamination Group
  - Facility piers determined to be clean by the Decontamination Group
  - Transit times
- Coordinate all vessel arrivals, departures, and request from vessels to shift berths
  - Instructions for vessels requesting entry into the safety zone
  - Instructions for vessels requesting to shift within the safety zone
  - Instructions for vessels requesting to depart the safety zone
- Coordinate vessel movements with the Safety Zone Enforcement Group
- Provide the following information to the Situation Unit prior to the Unified Command Planning Meeting
  - Number of vessels awaiting berth
  - Number of vessels authorized inbound transit through the safety zone
  - Number of vessels departed
  - Number of vessels awaiting decontamination
  - Number of vessels actively being decontaminated
  - Total number of vessels decontaminated
  - Number of vessels awaiting inspection
  - Total number of vessel inspections completed

Decontamination Group Supervisor. Oversees the implementation of the facility and vessel decontamination plan. Duties include:

- Verify the daily decontamination priority list
- Assign and coordinate decontamination work assignments
- Ensure that safety briefings are conducted prior to each shift
- Ensure that decontamination schedule is communicated daily to impacted stakeholders

Cleanup Assessment Teams. Conduct assessments of facilities and vessels within the spill area to determine extent of oil contamination and if decontamination efforts meet established criteria for cleanliness.

- Receive daily work assignment from the Decontamination Group
- Document (written and photographic) findings for each facility and vessel assessed
- Check integrity of deployed boom around facility piers. Notify Decontamination Group Supervisor if boom is not performing as required
- Check vessels within the safety zone for oiling. Notify Decontamination Group Supervisor of vessel(s) status (contaminated or not contaminated)

Decontamination Task Force. Provide personnel and equipment to conduct commercial facility and vessel decontamination.

- Receive daily tasking and safety brief from the Decontamination Group Supervisor
- Clean facilities and vessels in accordance with the Vessel Decontamination Plan
- Upon completion of decontamination efforts, coordinate with the Decontamination Group Supervisor to have the Cleanup Assessment Team inspect the vessel and verify that the decontamination meets established guidelines for cleanliness

Survey Group. Coordinates all diving and survey operations within the established safety zone to assure safety of overall on-water operations.

- Approve/disapprove dive safety plans
- Coordinate all dive and survey operations with the Vessel Traffic Management Group, Safety Zone Group and the On-water Recovery Group

Safety Zone Group. Utilize waterborne resources to enforce integrity of the safety zone.

- Enforce requirements of the safety zone
- Coordinate with the Vessel Traffic Management Group and the Decontamination Group to monitor and enforce all movement of vessels (commercial cleanup) that are arriving, departing or shifting berths within the safety zone

Air Operations Branch Director (AOBD)

The AOBD should discuss, with the OSC, the objective of the over flight mission to schedule the aircraft best suited for the mission. Over flight missions may include:

- Mapping the distribution and appearance of the oil
- Verifying modeled forecasts of the oil movement
- Providing responders with an overview of the incident
- Directing cleanup operations
- Providing equipment/personnel

Over flight missions for observations should take into consideration the following:

- In the early morning or early evening there is often not enough contrast to see some oils clearly.
- In the middle of the day, the sun may glare off the water surface, making it hard to distinguish oil.
- The flight track should be set up to minimize the glare with the optimum schedule for mapping oil distribution depending on the angle of the sun in mid-latitudes. The middle of the morning or afternoon is usually a good viewing time.

Personnel selected to conduct observations of oil spills should consult the Guidance for Aerial Observation of an Oil Spill

Planning Section

In addition to the traditional ICS Planning Section Units, response to an oil spill may require additional units be added (Figure 4) to enable the Planning Section to support incident operations.

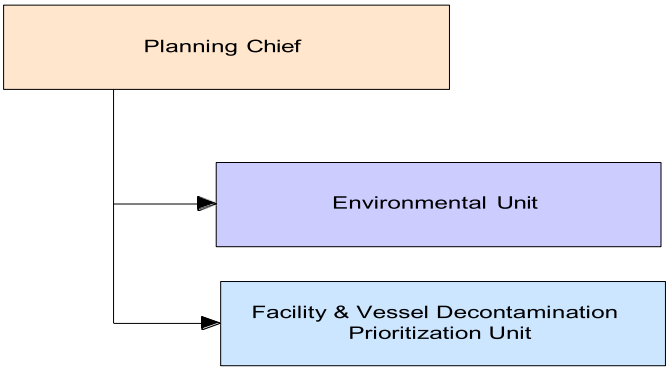


Figure 4. The Planning Section may require additional units not normally associated with the traditional ICS organization to enable the Planning Section to support response operations.

Depending on the size and complexity of the oil spill response the Planning Section Chief should determine the need to develop other supporting plans such as:

- Tar ball and Debris Plan
- Commercial Vessel Decontamination Plan
- Waste Disposal Plan
- Wildlife Recovery Plan
- Water Column Monitoring Plan
- Dispersant Plan
- In-situ Burn Plan

Environmental Unit

[Link with USCG Incident Management Handbook page 9-10]

The Environmental Unit responds to the changing demands of oil spills by developing with stakeholders a number of teams that solve specific tasks. The organization chart in Figure 5 includes several of the most common teams that work under the Environmental Unit during an oil spill response.

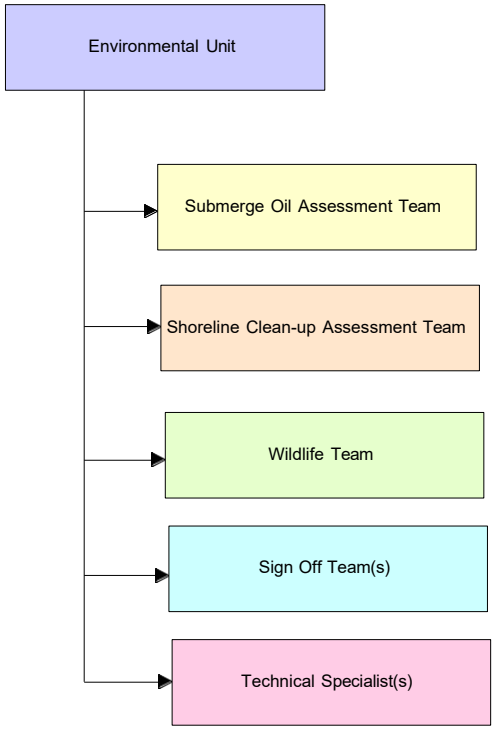


Figure 5. The Environmental Unit oversees a wide range of technical disciplines.

Environmental Unit Leader Responsibilities (not all inclusive)

- Assess the chemistry of the spilled oil to determine the oil's fate in the environment
- Provide support to the Safety Officer in development of the Site Safety Plan
- Provide expertise on living marine resources and their habitats and information on associated cleanup and mitigation methods
    - Coordinate with Federal and State Trustees the collection and dissemination of information on the environmental resources at risk, including marine resources
- Develop strategies to minimize environmental impact of the spill based on stakeholder consensus
    - Participate with State responders in the development of priority protection areas based on sensitive habitats [Link to Sensitive Area Maps]
    - Coordinate consultation with the State Historic Preservation Officers concerning the location of cultural and historic resources
- Develop environmental monitoring strategies that will help decision-makers understand the impact of response countermeasures that have been implemented

- Provide technical support to the FOSC during negotiations with representatives from the oil industry, the Port
- Provide information on meteorological, hydrological, ice, and oceanographic conditions
    - Provide technical report on future ice conditions
    - Provide technical report forecasting movement of the spilled oil
- Assemble and coordinate environmental stakeholders to reach consensus on protection priorities and cleanup strategies and endpoints
    - Consider establishing a Science Team that includes State representation and technical specialists to evaluate the technical issues and reach consensus
    - Through the Science Team, coordinate with stakeholders the development of endpoints
- Assemble and coordinate trustees and stakeholders for Natural Resource Damage Assessment and Restoration
    - Participate with Damage Assessment Center staff in the implementation of an immediate sampling plan
    - Work with Trustee agencies to begin the process of the Endangered Species Act Section 7 consultation
- Provide timely and complete status reports to the Planning Section Chief
    - Prepare environmental data for the Situation Unit
    - Provide weather, shoreline oiling, mapping and graphics for use in all briefings and situational updates, media briefings and public outreach forums
- As directed by the Unified Command, participate in news conferences, media availabilities, open houses and town hall meetings
- Establish and maintain the Response Link website for internal communications with response agencies
- Act as the liaison between the Unified Command and the Regional Response Team (RRT) providing the RRT with daily updates
- Coordinate requests from the Unified Command to conduct testing of alternative response strategies with the RRT
- Coordinate requests from venders to test new products using the Alternative Response Tools Evaluation System (ARTES) process
- Coordinate the activities of wildlife agencies
- Coordinate and support Unified Command requests for conducting hydrographic surveys

Submerged Oil Assessment Team

- Supports Submerged Oil Group activities
- Design submerged oil assessment strategies
- Ensure sample techniques are approved by the State
- Coordinate placement of water column monitoring devices with the State
- Provide leadership in the development of monitoring strategies for submerged oil
- Compile data reports

- Assess recovery techniques
- Identify potential impacts of oil and recovery techniques

Shoreline Cleanup Assessment Team (SCAT)

Shoreline Cleanup Assessment Team(s) are critical to supporting response operations by visually assessing impacted areas and determining the best methods of removal, enabling the Operations Section Chief to focus their response resources and refine their tactical plans. The SCAT Leader responsibilities include:

- Determining the number of SCAT teams required
- Configuring the Teams to ensure appropriate stakeholder representation
- Coordinating SCAT activities
- Developing the SCAT process that would meet the objectives of the Unified Command and the data collection and documentation requirements of the Natural Resource Damage Assessment (NRDA) teams.
- Establishing on-scene Geographic Information System (GIS) mapping capabilities to capture SCAT results and provide information to Situation Unit and stakeholders
- Coordinating with the Responsibility Party's spill management team to ensure that SCAT information is shared with their scientific personnel

Wildlife Team

- Ensure all wildlife recovery personnel are adhering to accepted or incident-specific health and safety guidelines
- Advise FOSC of the presence of any federally or state-listed species, and/or their supporting habitats
    - Make recommendation to minimize or avoid adverse impacts to the species or the supporting habitat, in coordination with the appropriate Endangered Species biologists
    - Assist FOSC with initiation of emergency consultation under the Endangered Species Act as warranted
- Advise FOSC of the presence of populations of migratory birds, sensitive species and/or their habitats and offer recommendations to minimize or avoid adverse impacts
- Mobilize federal and/or state wildlife personnel for oversight or to assist in the collection or capture of oiled wildlife
- Assist law enforcement personnel in, or direct, the setting-up of morgue facilities
- Determine the need to enlist assistance from United States Department of Agriculture-Animal Plant Health Inspection Service (APHIS)-Wildlife Services
- Prepare a written oiled wildlife recovery plan to include, but not limited to
    - Establishment of a hotline to report oiled wildlife
    - Advising cleanup contractors of wildlife recovery protocols
    - Establishing the veterinarian of record, and euthanasia protocols

  - Establishing protocols to report daily wildlife numbers to the FOSC
- Provide technical assistance in the prioritization sensitive areas for clean-up
- Provide technical assistance to minimize or avoid adverse impacts to trust species or lands held by any State, Tribes or the United States
- Provide technical assistance on clean-up end points and shoreline assessment techniques
- Prepare daily wildlife recovery unit summary for the Unified Command
- Prepare Wildlife Recovery Unit demobilization plan
- For potential support resources consult the Fish and Wildlife Response Facilities and Resources

Sign Off Team (SOFT)

The Sign off Team is responsible for providing documentation to the Unified Command stating that areas impacted by the oil spill have been cleaned to agreed upon standards. SOFT members usually include representation from the land trustee, Coast Guard, Scientific Support Coordinator and the Responsible Party. SOFT responsibilities include:

- Evaluating areas identified by Operations as 'clean' to ensure that the agreed upon cleanup endpoints are met
- Working with Operations to identify areas that require further cleaning
- Providing signed documentation to the Unified Command that the area evaluated met the cleanup standard
- Coordinating any field activities with the Operations Section Chief
- Providing Documentation Unit Leader with the original copy of the SOFT documentation

Facility and Vessel Decontamination Prioritization Unit

The Facility and Vessel Decontamination Assessment Unit is responsible for supporting the Waterways Management Unit efforts to prioritize which commercial facilities and vessels will be decontaminated. The information provided by this Unit is one of several variables used in the final determination. Primary responsibilities:

- Interview port partners from the maritime industry to determine the variables (i.e. type of cargo, impact on community, etc.) to be used when prioritizing decontamination. Port partners interviewed may include:
  - San Juan Bay Pilot's Association
  - South Coast Harbor Pilots
  - USVI Pilots
  - Harbor Master / Port Control
  - Puerto Rico Ports Authority
  - Ponce Ports Authority
  - Representative sample of port facilities impacted by the spill
- Develop a mathematical model based on the economic impact that would result from delaying a return to normal operations

- Use the results of the model to rank order facilities and vessels
- Provide ranked outcome to Waterways Management to assist with their scheduling of facilities and vessels for decontamination.

Disposal Technical Specialist

Responsible for developing a waste disposal plan that meets the requirements of the local regulations. Specific responsibilities include:

- Contact Operations Section Chief to assess disposal needs for types and magnitudes of materials to be handled
- Identify available tankage for interim recovered liquids storage and location(s) for interim storage of solid wastes and track waste accumulations at each location
- Prepare a waste disposal plan and submit to the Planning Section Chief and Operations Section Chief for review
- Contact appropriate waste transportation contractors to determine capabilities and availability
- Designate liquid waste transfer locations and ensure compatibility of equipment with vacuum/tank trucks and/or skimmers/barges
- Ensure accurate waste accounting and tracking systems are in place
- Review the site safety plan with all waste management personnel and ensure they don the appropriate Personnel Protective Equipment (PPE)
- Make initial determination on hazardous nature of material through knowledge of material spilled and/or chemical analyses
- Contact potential waste treatment and disposal facilities to determine acceptance criteria and any additional characterization requirements
- Collect representative samples of oil/oily wastes if required by the treatment or disposal facilities for additional characterization
- Waste should be segregated:
    - Oil and oil water mixtures recovered from the water and shoreline
    - Oiled organic debris (wood, aquatic vegetation)
    - Oiled sorbents (pads, booms, snares, sweeps)
    - Oiled sediments
    - Oiled PPE, containment boom, general trash
    - Non-oiled and non-hazardous waste materials
- Document all waste collection, segregation, handling, transportation, and treatment/disposal activities to enable accurate tracking and ensure regulatory compliance
- Consult the General Waste Containment and Disposal Checklist

Other Technical Specialist (refer to phone book Technical Specialist Section)

- Wetland Ecology – Freshwater Tidal Marshes
- Wetland Ecology – Salt Marshes
- Conservation Biology
- Water Quality – Contaminates
- Water Quality - Biogeochemistry

National Resource Trustees

- Generally serve as key advisors, rather than as designated representatives on Unified Command
- Trustees need to immediately select a federal administrative lead to represent the trustees to the Unified Command
- The lead trustee should coordinate their concerns through the Liaison Officer. If there is no Liaison Officer, the lead trustee must coordinate directly with the Unified Command

Historic Property Specialist

- Assesses potential effects of emergency response strategies on historic properties in consultation with the parties identified in the ACP.
- Recommends to the FOSC response actions and policies developed in consultation with parties identified in the ACP to help minimize potential impacts to historic properties.

Logistics Section Chief

- Coordinate with the Operations Section Chief on dispersant requirements [See Section 3290.1 Dispersants]

Special Teams

The following are some of the special teams and other technical expertise that should be considered as potential response resources when responding to an oil spill:

- National Oceanic Atmospheric Administration (NOAA) Scientific Support Coordinator (SSC)
- Gulf Strike Team
- District 7 District Response Advisory Team
- District 7 Public Affairs Detachment
- Environmental Protection Agency (EPA) Environmental Response Team
- Navy Supervisor of Salvage (See Section 3320.1 Specialized Salvage Ops)
- Coast Guard Atlantic Area Incident Management Assist Team
- National Strike Force Public Information Assist Team
- Army Corps of Engineers
- NOAA Navigational Response Team (access through NOAA SSC)
- EPA On-scene Coordinators from Region II
- Occupational Safety and Health Administration
- United States Fish and Wildlife Service
- Animal Plant Health Inspection Service
- Historic Property Specialist
- Water Intake Specialist

Salvage Annex

The Salvage Annex discusses the procedures and potential issues to be considered during a salvage operation in the Puerto Rico and U.S. Virgin Islands area of responsibility.

Note: The Coast Guard Captain of the Port has jurisdiction over vessel salvage situations occurring within his/her Captain of the Port (COTP) zone; this does not preclude any other agencies' interests with respect to spill response.

Initial Response Phase

A vessel casualty and oil spill, or potential oil spill, may require the following responses:

(1) Search and rescue
(2) Oil spill containment/clean-up
(3) Fire fighting
(4) Vessel salvage
(5) Endangered Species Act Section 7 Emergency Consultation

The first priority in a vessel casualty is the safety of the crew and any other personnel in the area. Secondary concerns are for environmental protection and vessel salvage. A casualty-scene information that will become essential to the early efforts at salvage should be completed by the responders aboard the vessel.

1. Search and Rescue Operations.

The SAR (Search and Rescue) Mission Coordinator (SARMC) will respond by deploying Coast Guard resources. This individual will be the local Coast Guard Group Commander or District Commander whose zone includes the vessel casualty. Upon notification, the Coast Guard will designate the SARMC and respond, as necessary, with on-scene resources.

2. Pollution Response Operations.

The Federal On-Scene Coordinator will ensure pollution response efforts are conducted in accordance with this plan. However, pollution response operations will be accomplished on a not-to-interfere basis with search and rescue operations. While pollution response clearly takes priority over salvage efforts, the two responses may necessarily be conducted concurrently. Salvage operations could be critical to preventing any further discharge of oil. The FOSC will prioritize actions to avoid interference between salvage and pollution response efforts.

3. Fire Fighting.

Refer to section 8000 of this plan in which the Puerto Rico and the U.S. Virgin Islands Marine Firefighting Contingency Plans are attached for marine fire fighting activities. The salvage issues regarding firefighting should be considered while fire fighting activities are being completed. The de-watering, ballasting, and counter-flooding aspects of fire fighting will be coordinated by the FOSC. Follow on issues of hull integrity due to weakening from heat fatigue must be considered in the salvage effort.

4. Salvage Operations.

Salvage is a term used to describe all services rendered to save property from marine peril. This broad definition encompasses not only actions undertaken to save a vessel or cargo, but also includes wreck removal, harbor clearance, and deep water search and recovery.

Salvage includes:

- Providing firefighting assistance.
- Refloating a vessel from a stranding.
- Offloading cargo or water to prevent foundering, or removing sound cargo from impending peril.
- Shoring, patching and making temporary repairs to correct structural, stability, or mechanical problems.
- Rescue towing of an incapacitated vessel to a safe haven.
- Preventing pollution.

When conducting salvage operations for a large passenger vessel that contains Special Purpose Cargo from another company, it is critical to hold a meeting with the appropriate agencies for Customs Clearance. Detailed information regarding customs Clearances can be found in 19 CFR 4.

5. Endangered Species Act Section 7 Emergency Consultation.

The National Oceanic and Atmospheric Administration and Department of the Interior should be contacted prior to any salvage operations to ensure that endangered species, such as coral, manatees, and sea turtles, have not and/or will not be impacted by the incident or salvage. The NOAA representative to contact would be Dr. Lisa Carrubba (787) 851-3700 lisamarie.carrubba@noaa.gov) and Mr. Felix Lopez from U.S. Fish and Wild Life (787-851-7297 felix_lopez@fws.gov) (see Section 9000 for other contact information).

After consultation with these natural resource trustee representatives and confirmation that endangered species has or may be taken, an e-mail requesting an emergency consultation along with the Emergency Consultation Request Worksheet must go to the National Marine Fisheries Service at nmfs.ser.emergency.consult@noaa.gov to allow for the trustees to conduct surveys of the area and provide a recommendation on the salvage practices and specific areas to be avoided in order to minimize the takes to any endangered species.

Definitions and Roles

Salvage Tug
A Salvage tug is a tugboat equipped to attend to vessels in distress in coastal or ocean conditions, and to render assistance either by towing, provision of pumping equipment, or similar aid. Such tugs historically have been large, powerful, and stationed at high risk locations for ship traffic.

Rescue Tug
A rescue tug is generally a “tug boat of opportunity”, having adequate horsepower or bollard pull strength to assist in controlling a distressed vessel until salvage resources arrive. A rescue tug would generally be capable of providing emergency towing, and quite possibly render a degree of firefighting assistance, since many of the newer tugs are equipped with firefighting water monitors. Rescue towing involves taking an incapacitated vessel under tow at sea and towing it out of harm’s way, generally to a safe haven or port, but sometimes for beaching.

Salvage Masters
In order to conduct a proper salvage you must have someone in charge who has the knowledge of how to respond to the specific situation. The person in charge of a salvage operation is known as the salvage master.

A Salvage Master should have direct experience in ship salvage, demonstrating experience in the use of salvage ships and craft, ground tackle, heavy lift craft, cranes and booms, oil pollution containment equipment, and all ancillary types of salvage equipment (e.g. pumps, compressors, welding equipment, etc.). The salvage master acts under the direction of the FOSC, he generally assumes complete control of salvage, harbor clearance, and related engineering operations.

Potential threats
The threat is greatest from cargo vessels that carry hazardous materials in large quantities, such as break bulk; containerized cargoes; dangerous liquids; and pressurized or liquefied gases. Vessels that are regulated, such as oil tank ships and barges, pose a substantial threat to the marine environment, they have been the main target of federal and state oil spill prevention regulations.

Yet, in some cases it is the unregulated cargo vessel that may pose a bigger potential pollution hazard. There are far more cargo vessels than tank vessels, cargo vessels may carry more bunker fuel than the cargo capacity of some oil barges, additionally, cargo or freight vessels may be carrying products far more hazardous in nature than oil.

Salvage Response Considerations
This section describes salvage situations and the general guidelines to follow in responding to a salvage situation. In addition, this section also describes actions to be taken in response to vessel strandings, the relationship between the on-scene coordinator, the responsible party, the vessel's master, and the salvor. Information pertaining to salvage procedures was adapted from Chapter 8 of Volume I of the U.S. Navy Salvage Manual. All parties involved in a salvage response should refer to the manual for specific information relating to salvage techniques.

Salvage efforts may be divided into three phases: stabilization, refloating, and post-refloating. During the stabilization phase, salvage personnel will take steps to limit further damage to the vessel, and to keep the ship from being driven harder aground or broaching. Response leaders gather information and formulate a salvage plan; that plan specifies actions to be taken during the refloating and post-refloating phases of the salvage. The refloating phase commences when the salvage plan is executed and ends when the ship begins to move from her strand. During post-refloating, the vessel is secured and delivered to the designated port facility. Parties involved in salvage response should refer to Chapter 8, Volume I of the U.S. Navy Salvage Manual for specific information relating to salvage techniques.

Stabilization Phase:
This phase of operations must take into account the potential discharge of oil and hazardous substances into the environment. Upon stranding the Vessel's master SHOULD take the following steps:

1. Have ships personnel report to their emergency stations.
2. Take action to determine the vessel's condition and stabilize the vessel.
3. Secure watertight closures.
4. Notify Coast Guard and vessel's Operations center.
5. Request salvage assistance.
6. Note course and speed at time of stranding.
7. Obtain and provide if necessary, an accurate cargo stowage plan.
8. Evaluate the following:
   - Safety of personnel
   - Weather and sea conditions
   - Forecast for change in weather and sea conditions
   - Nature of the sea floor and shoreline.
   - Depth of water around ship

- Ground reaction
- Damage to hull
- Damage to shafting, screws, and rudder
- Risk of further damage
- Prospect of maintaining communications
- Ground reaction
- Likely draft and trim after refloating
- Potential for discharge of pollutants
- Position of vital and cargo systems' valves
- The liquid level of all tankage (e.g. fuel, ballast, cargo, etc.)

The Vessel's Master should not:

1. Jettison weight to lighten the vessel in an attempt to back the vessel off.
2. Attempt to back the vessel off when the bottom is torn open.
3. Fail to take action to stabilize the vessel and to determine its condition.

The Vessel's Master should request salvage assistance immediately, and not delay pending the results of an early attempt to refloat the vessel. If the damage assessment indicates the vessel is not in danger of broaching, sinking or capsizing, the master may attempt to back the vessel clear using full engine power on the next high tide.

The Responsible Party should take the following steps:

1. Contact the Coast Guard. Provide a current status of the situation.
2. Implement a Unified Command System response organization.
3. Identify salvage resources available and determine time required for those resources to arrive on scene:
   - Salvage Master
   - Salvage Vessel's
   - Tug Boats
   - Beach Gear
   - Barges with Ground Tackle
   - Lightering Resources
   - Lifting Vessels
   - Appropriate portable cargo transfer pumps and hoses hull patching equipment
4. Initiate salvage response. Over-estimate the quantity of resources needed.
5. Keep the vessel's master informed of all actions taken.
6. Obtain the services of a Naval Architect.
7. Conduct damage stability and longitudinal strength calculations.

Here in Puerto Rico with limited resources, it is very important that the Responsible Party not abruptly dismiss the salvage company before the remediation stage. The salvage company should be deliberately kept on until the cargo disposition and hazardous/non-hazardous waste removal plan is fully developed, vetted, and there is assurance that existing capabilities are sufficient to carry out operations. The Unified Command should intentionally deliberate on appropriate demobilization timeframes of salvage resources, invoking the Chaffee Amendment as necessary.

Upon being assigned responsibility for the salvage action, salvage personnel should:

- Advise the vessel that he (his organization, vessel, etc.) is in route to assist, and provide ETA (estimated time of arrival) on-scene.
- Ensure that the master is aware of the information covered in the preceding paragraphs that relates to early attempts to refloat the vessel.
- Obtain all information available regarding the vessel's particulars and details of the stranding. This should include:
  - An accurate position of the stranding (latitude/longitude)
  - Means used to fix position
  - Drafts at time of sailing
  - Estimated drafts at time of stranding
  - Applicable chart numbers
  - Drafts after stranding, with state of time and tide
  - Soundings alongside from forward to aft, corrected to datum of the chart of the area
  - Soundings of all tanks and voids, noting changes in contents
  - Ships course and speed at time of stranding
  - Ships heading after stranding and details of changes
  - Liveliness of the vessel in response to swells and surf
  - Weather conditions
  - Sea and current conditions
  - Extent of vessel damage
  - Location of grounding points and estimated ground reaction
  - Seafloor type
  - Status of vessel's machinery and piping systems
  - Vessels loading plan or cargo manifest
  - Amount and location of hazardous substances
  - Locally available resources (tugs, cranes, bulldozers)

Upon arrival, the salvage ship or vessels, and personnel, should conduct damage control and position stabilization. Damage control actions may range from augmenting the ship's crew, to conducting firefighting and flooding control. Position stabilization consists of securing the ship at the first opportunity to prevent it from broaching or being driven further ashore.

Prior to developing a salvage plan, the salvor must conduct a thorough salvage survey of the vessel and its immediate surroundings. The survey is defined in the Navy Salvage Manual as being comprised of: the preliminary survey; the detailed hull survey; the topside survey; the interior survey; the diving survey; the hydrographic survey; and the safety survey. The salvor should refer to Section 8-2.6 of Volume I of the Navy Salvage Manual for details. The information should be recorded on the salvage survey form included in Appendix I, Chapter 8, Volume I of the Navy Salvage Manual, or an equivalent.

Based on information received from the vessel, the salvor should evaluate the following:

1. Vessel's original estimates of ground reaction and freeing force.
2. Stability afloat and residual strength.
3. Ship's machinery condition and retraction power available locally.
4. Ship's ability to proceed to a safe haven after refloating.

The salvor should then advise the master based on these evaluations, and take the following steps to mobilize the salvage force:

1. Determine personnel and material required.
2. Collect information about the stranded ship. Sources include:
   - Owner
   - Vessel's classification society
   - Coast Guard
3. Ensure needed navigation material is on board.
4. Begin recording written record of information and actions taken.
5. Ensure that salvage vessels enroute will be prepared to respond upon arrival to the stranding site.

Upon arrival (in coordination with the response organization/OSC where applicable), the salvage master should conduct damage control and stabilization. Damage control actions may range from augmenting the vessel's crew for firefighting and flooding control. Position stabilization consists of securing the vessel to prevent broaching or being driven further ashore. The salvor must then, in preparation for the development of the salvage plan, conduct a thorough salvage survey. This survey is defined and described in the Navy Salvage Manual, Volume 1 Section 8-2.6, as being comprised of the preliminary survey, a detailed hull survey, a topside survey, an interior survey, a diving survey, a hydrographic survey and a safety survey. The information gathered during the surveys should be recorded on a survey form as found in Appendix of the aforementioned manual.

1. Basic information identifying the ship's characteristics and the condition of the stranding.
2. An analysis prepared by the salvor and naval architect, which provides estimates of:
   - The ground reaction

- The freeing force
- Location of the neutral loading point (point at which weight can be added w/out change in ground reaction)
- Stability - grounded and afloat
- Strength of hull girder, damaged areas, attachment points, and rigging
- A summary of the engineering rationale employed for selection of retraction and refloating techniques
- Hydrographic information
- Potential pollution risks

3. List of specific safety hazards involved.
4. Potential pollution risks:
   - Lightering Considerations
   - Booming Considerations
   - Standby Equipment
5. Means for controlling interference between pollution response efforts and salvage efforts.
6. Appendices which provide detailed information regarding techniques to be employed.
7. Location to which the vessel will proceed following refloating.
8. Means for controlling the vessel as it is freed.
9. Vessel escort, if any, to be employed.
10. Means for delivering vessel to destination (tow, own power).
11. Any preparation of vessel necessary to gain permission for entry into port of destination.
12. Means of disposal, if other than above.

Refloating Phase:

The salvage plan is implemented during this phase. The plan should be considered a flexible working plan with appropriate changes made in response to changing conditions. During this phase, all parties must be in close communication, and the process should be brought to a halt if significant safety problems develop. The salvor, responsible party, and the Captain of the Port have the authority to stop salvage operations in this case. Consideration to assuring that the problem will not be made worse must be addressed thoroughly. In the case of a heavily damaged vessel, the risk to the port and the environment may not warrant allowing the vessel to be brought into the harbor. In some cases, it may be desirable to allow the vessel to sink in deep water to mitigate environmental damage, or minimize risk to life. Obviously, these are decisions that will have all parties in the salvage effort fully involved, and the FOSC must take the lead to assure that the best management of the incident/threat is achieved. Working with the Responsible Party and the naval architect, the salvor must develop a salvage plan. The plan must detail actions to be taken and resources to be used, and it must set organizational responsibilities and the anticipated schedule.

After the plan is prepared and prior to initiating salvage operations, the Responsible Party must submit the plan to the Federal on Scene Coordinator or his designated representative, for review. The Federal on Scene Coordinator will review the plan, and approve or disapprove it based upon real or potential risks to port safety and the environment. Any plans for the intentional jettisoning of cargo will be reviewed as part of the salvage plan.

Post Refloating Phase:

(1) This phase commences when the ship begins to move off the strand, and is completed when the ship has been delivered to a safe haven or repair facility. In addition, salvage resources and equipment should be removed from the salvage site. The options for disposal of the vessel include:

- Steaming into port, or to another location within the port
- Towing to safe haven
- Anchoring in preparation for tow or temporary repairs
- Beaching if the ship is in danger of sinking
- Scuttling or sinking

(2) The following salvage plan items are to be updated, as necessary, following refloating:

- Overall seaworthiness
- Vessel's bottom, for damage hidden by the strand
- Condition of piping systems and machinery
- Condition of all ship's systems necessary for the transit
- Ship's stability, list, and trim (may necessitate loading or shifting of weights)
- Patching and pumping arrangements for compartments in way of damage
- Towing bridle, day marks, and navigation lights (an insurance line should be rigged even when the ship proceeds under its own power)

(3) Following this phase, the Responsible Party shall submit a completed form CG2692 to the Officer in Charge of Marine Inspection and submit all requested information to the Senior Investigating Officer of the Sector SJ Prevention Command.

Salvage Response for Other than Strandings

Salvage assistance may also be required for vessel sinking and rescues (towing). In these cases, the relationships between the various parties remain the same as for strandings. For sinking, the salvor must focus on methods for refloating the vessel, and vessel stability as it is refloated. For rescue situations, development of a comprehensive salvage plan may not be necessary. Use of good marine practice in establishing and maintaining the tow, and coordination with the vessel's master, tow vessel, Coast Guard SARMC, the Captain of the Port, and the vessel's owner/operator may suffice. In either of these cases, the user of this plan should follow the guidelines presented, adapting them to the specific salvage requirements at hand.

Federal Salvage Resources

Navy Supervisor of Salvage Assistance (SUPSALVAGE)

In the event that the Responsible Party does not respond to the casualty, the federal government may respond to the salvage requirement, utilizing the services of Navy Supervisor of Salvage. However, financial responsibility remains with the Responsible Party. Equipment requests should be initiated from SUPSALV's website - http://www.navsea.navy.mil/Home/SUPSALV/.

Navy Supervisor of Salvage services may be obtained by:

a. Telephoning Supervisor of Salvage Operations P (202) 781-1731 X 2 ; F(202)781-1731

The message text should include: a brief description of services required; location; urgency; point of contact; and telephone number. If the task is urgent and requires immediate mobilization, the message should amplify this and include a statement that funding will be provided by separate correspondence. SUPSALVAGE can provide the services of naval architects, may provide the services of naval salvage vessels, and has access to contracts which will provide the services of commercial salvors and equipment. SUPSALVAGE developed and has available software for rapid analysis of longitudinal strength and intact/damaged stability. The software is known as Program of Ship Salvage Engineering (POSSE).

US Coast Guard Marine Safety Center Support

Technical support is also available from the Marine Safety Center (MSC) Salvage Engineering Response Team (SERT). This group can evaluate vessel stability, hull strength and salvage plans, and may also be available for on-scene assistance. The MSC may be able to provide vessel plans if the ship is U.S. flag. The Federal On-Scene Coordinator may obtain services of MSC by calling main contact (703) 872-6729 or the SERT duty phone (202) 327-3985 or e-mailing SERT.Duty@uscg.mil.

U.S. Coast Guard Strike Team

Coast Guard Strike Teams can be on scene reasonably rapidly to provide initial response assistance with pumps, personnel, pollution control equipment, and miscellaneous salvage hardware. The Strike Team can be contacted 24 hrs a day at:

Atlantic Strike Team	**Gulf Strike Team**	**Pacific Strike Team**
Office 609.724.0008	Office 251.441.6601	Office 415.883.3311
CDO 609.556.9376	CDO 251.441.6601	CDO 415.559.9908
Fax 609.724.0232	Fax 251.441.6610	Fax 415.883.7814

CARIBBEAN REGIONAL RESPONSE TEAM
GUIDANCE FOR
THE DISPOSAL OF CONTACT WATER
IN INLAND, OCEAN, AND COASTAL WATERS

Revision: December 13, 2004

INTRODUCTION

The decision to dispose of contact water within inland, ocean, and coastal waters rests with the federal On-Scene Coordinator (OSC) and the Unified Command (UC)[1]. This document provides the Caribbean Regional Response Team (CRRT) guidance and decision-making tools to support and assist OSC/UC actions within the region when they are pursuing the disposal of contact water. The information contained within this document was developed strictly to identify issues and provide consistent viewpoints and procedures to assist the OSC/UC and alleviate potential barriers that may inhibit the decision process. This is a planning and preparedness effort and we encourage Area Committee members to incorporate concepts and information from this document into their respective Area Contingency Plans. It is structured in three sections. Section I defines the purpose, authority, and scope of the process. Section II contains the general guidance and procedures that may be considered by the OSC/UC when conducting disposal of contact water on applicable oil spills throughout the Caribbean Region. Section III contains appendices and includes:

- A placeholder for protocols for each state to establish specific conditions or procedures for conducting any disposal of contact water inside commonwealth/territorial waters (3 miles or less from shore), and for special managed areas if applicable, and the approval or final decision process for conducting such operations.

- Decision tree for supporting contact water disposal or decanting operations;

- Suggested procedures, guidance, and standards for the proper contact water disposal or decanting operations;

- Suggested monitoring protocols; and

- Optional Information/Decision checklist for contact water disposal operations.

[1] Contact Water is defined as any water that has come in contact and/or is contaminated with "oil", as defined in the Clean Water Act (CWA) as amended by the Oil Pollution Act of 1990 (OPA 90), Title I – Oil Pollution Liability and Compensation, Sec. 1001. Definitions. (23) "oil" means oil of any kind or in any form, including, but not limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredge spoil, but does not include petroleum, including crude oil or any fraction thereof, which is specifically listed or designated as a hazardous substance under subparagraphs (A) through (F) of section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S.C. 9601) and which is subject to the provisions of that Act.

SECTION I

Purpose

The purpose of this guidance is solely to support and enhance the OSC/UC's ability to quickly determine the best course of action when addressing the disposal of contact water into inland, ocean, and coastal waters. This guidance outlines the decision-making process, identifies issues, suggests procedures, and provides checklists to help standardize the contact water disposal options. This guidance is a planning and preparedness tool that can be taken in part or in whole and incorporated into various Area Contingency Plans.

As mentioned earlier, the disposal of contact water is an OSC/UC decision and no CRRT concurrence or consultation is necessary. However, the CRRT recognizes that in some instances the physical containment and collection of contact water during significant oil spill incidents is unfeasible or inadequate and the effective disposal of contact water as an oil spill response technique must be considered. These guidelines were developed to allow the federal On-Scene Coordinator and their state On-Scene Coordinator partners, within the Unified Command, to employ concepts or tools from this guidance to help or assist in the disposal of contact waters to:

- Prevent or substantially reduce a hazard to human life;
- Minimize the environmental impact of spilled oil;
- Take full advantage of available containment/collection resources in an effort to enhance the efficiency of the overall removal operation; or
- Reduce or eliminate economic or aesthetic losses which would otherwise presumably occur without the use of this technique.

Authority

Subpart D of the National Oil and Hazardous Substances Contingency Plan (NCP) provides that the federal On-Scene Coordinator (OSC) in consultation with the federal trustee representatives may authorize the disposal of contact waters during oil spills.

Commandant, U.S. Coast Guard has pre-designated the USCG Captains of the Port as federal On-Scene Coordinators (OSC) for coastal zone oil spills and has delegated authority and responsibility for compliance with Section 311 of the Federal Water Pollution Control Act or Clean Water Act, as amended, to them. The EPA has delegated its authority for authorization of disposal of contact water to the EPA representative to the CRRT. The CRRT representatives from the Department of Commerce (DOC), the Department of Interior (DOI), and the State have been delegated authority by their representative agencies or governments to represent natural resource trustee concerns and serve as consultants to the CRRT or OSC on these matters.

Scope

This guidance covers protocols that provide the OSC/UC with procedures and process to pursue the conditional disposal of contact water to enhance response/removal operations for oil spills within the boundaries of the Caribbean Region.

In accordance with response planning regimes required by the Clean Water Act as amended by OPA 90, the responsible party (RP) will be expected to provide sufficient containment, collection, and storage resources in accordance with accepted response plans. The process for disposal and discharge of contact water explained within this document **should be considered a last resort response** to address a lack of available storage resources or to ensure an efficient response.

Conditions for Disposal of Contact Water

The term "disposal of contact water" applies to operations whereby water containing quantities of oil, resembling criteria described in 40 CFR 110 and mostly in the form of oil sheens resulting from oil/water separation activities (e.g., skimming, vacuum removal, etc.) is returned to the inland, ocean, or coastal waters after most of the free oil is contained and separated. This guidance provides consistent and standard procedures for the disposal of contact water operations conducted within the jurisdiction of the Caribbean Region. The authority to authorize the disposal of contact water rests with the federal OSC and may not be delegated. Decisions made in this regard shall be in accordance with procedures developed by the applicable OSC/UC, the Area Contingency Plan (ACP), and consistent with the specific procedures established within Appendix I of this document.

SECTION II

Suggested General Protocol and Guidance

Specific guidance concerning disposal of contact water operations, monitoring, and decision-making are contained in the Appendices to this document. The following general issues are offered for consideration concerning the disposal of contact water operations falling under the provisions of this guidance:

- Health and Safety Concerns – Assuring worker's health and safety is the responsibility of employers and ultimately the federal OSC who should comply with all Occupational Health and Safety Administration (OSHA) regulations. Prior to any disposal of contact water operations, a site safety plan should be submitted and approved by the federal OSC and the Unified Command.

- Monitors representing the OSC, EPA, federal trustee agencies, the affected State, and the responsible party should have the opportunity to monitor disposal of contact water operations, when feasible. Further monitoring to establish "Continue/Discontinue" data for

input to the OSC can be conducted in accordance with protocols outlined in the monitoring program contained in Appendix IV.

- Prior to any disposal of contact water operations, the OSC may review the Decision Tree contained within Appendix II and complete the checklist contained within Appendix V. These tools are optional and have been provided to assist the OSC/UC in consistently implementing this response technique.

- The checklist found within Appendix V can be completed for disposal of contact water and provided to interested parties (e.g., the UC, the CRRT, etc.). This checklist provides a standard tool to document all pertinent issues or concerns have been addressed or considered.

- The OSC should continuously evaluate the decision to dispose of contact water.

- Disposal of contact water should be conducted by oil response trained professionals using recognized techniques and technology.

- Mechanical oil recovery equipment and/or materials should be mobilized on-scene, when feasible, for backup and complimentary response capability.

- Disposal of contact water should be conducted in accordance with consultations approved by the DOI and DOC, under section 7 of the Endangered Species Act. Prior to beginning disposal of contact water, an on-site survey should be conducted in consultation with natural resource specialists to determine if any threatened or endangered species are present in the disposal area or otherwise at risk from any disposal operations. Measures will be taken to prevent risk of injury to any wildlife, specially endangered or threatened species. Examples of potential protection measures may include moving the locations of the disposal of contact water to an area where listed species are not present and physical removal of individuals of listed species under the authority of the trustee agency.

- Documentation of disposal of contact water operations may be accomplished within any required reports. If an OSC Report or any over report medium is not required as a result of the incident, a special report is not necessary to document the disposal of contact water operation. If CRRT action is needed to support an operation, a verbal report should be made at the next CRRT meeting to review the process.

- Recommendations for changes or modification to this guidance should be presented to the CRRT at any time.

SECTION III

APPENDICES:

- **Appendix I** – Placeholder for protocols for Puerto Rico and the USVI, which establish specific conditions or procedures for conducting any disposal of contact water inside commonwealth/territorial waters (3 miles or less from shore), and for special managed areas if applicable, as well as the final decision-making authority and procedure for a given state.

- **Appendix II** - Decision tree for supporting contact water disposal or decanting operations.

- **Appendix III** – Suggested procedures, guidance, and standards for the proper contact water disposal or decanting operations.

- **Appendix IV** – Suggested monitoring protocols.

- **Appendix V** - Information/Decision checklist for contact water disposal operations.

APPENDIX I

Specific Protocols, Procedures, or Guidance for Puerto Rico and the U.S. Virgin Islands

Separate protocols for each state, which establish specific conditions or procedures for conducting any disposal of contact water inside commonwealth/territorial waters (3 miles or less from shore), and for special managed areas if applicable, as well as the final decision-making authority and procedure for a given state or commonwealth.

- **Puerto Rico**

  No specific protocols at this time.

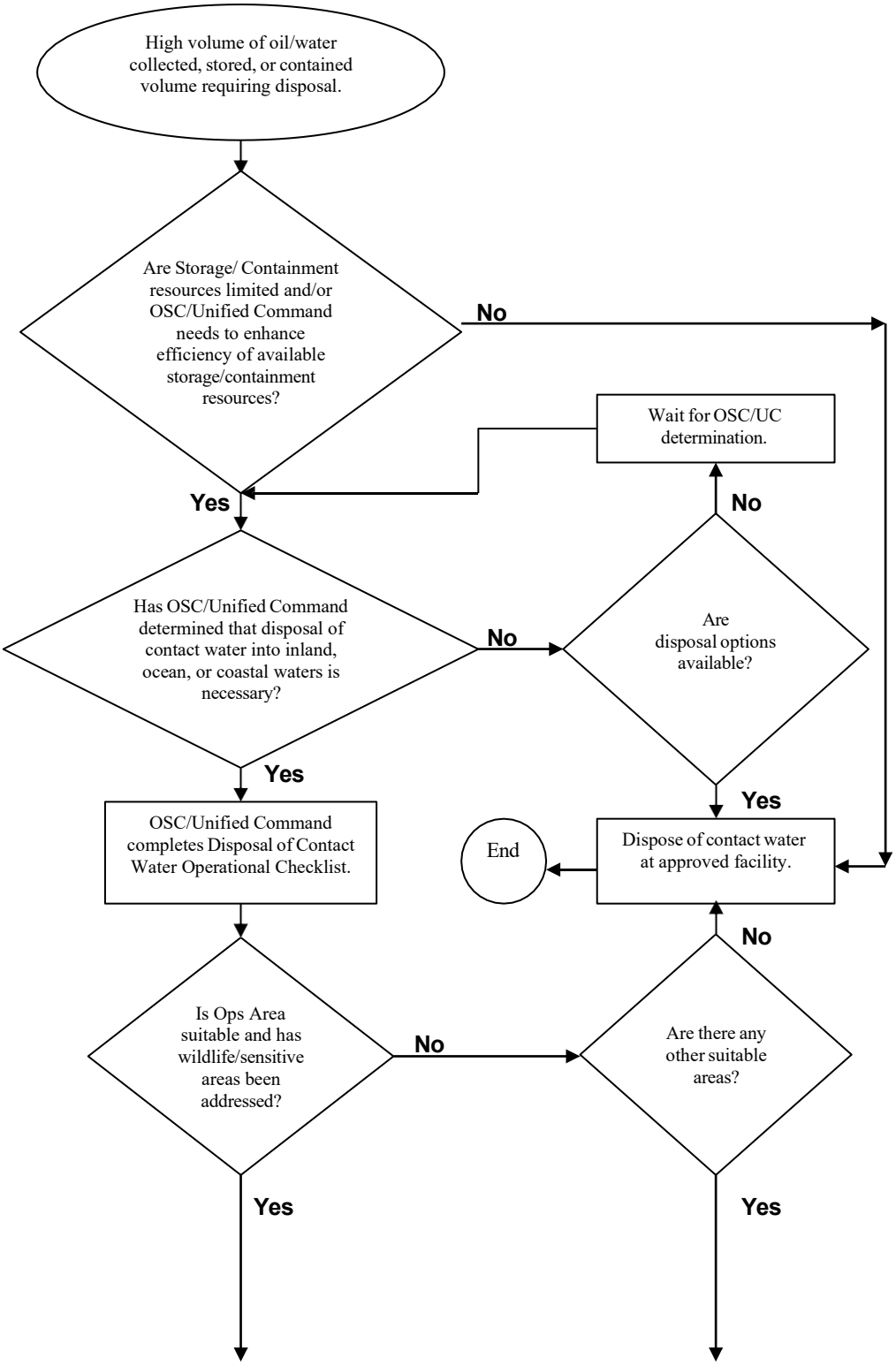
- **U.S. Virgin Islands**

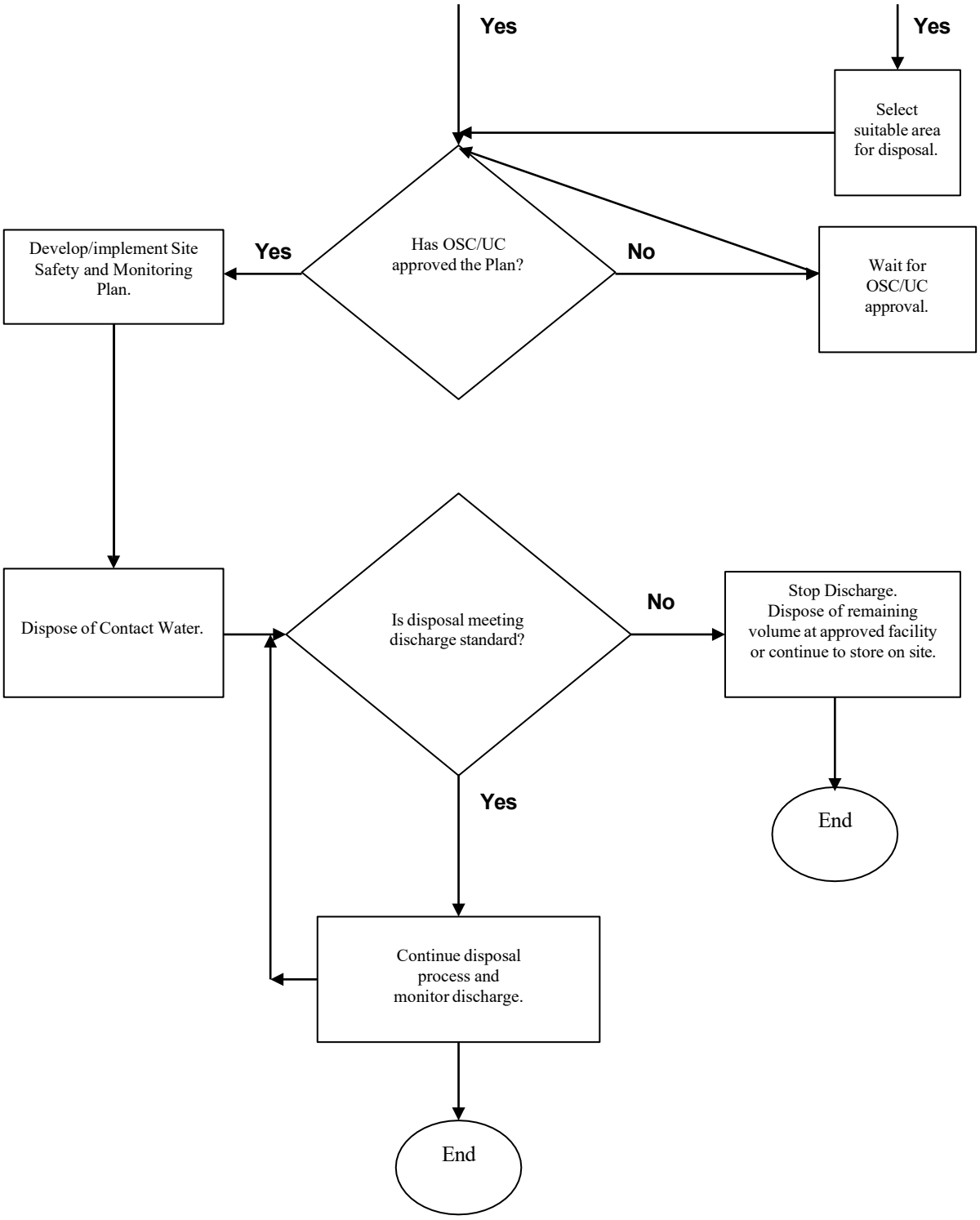
  No specific protocols at this time.

APPENDIX II

Disposal of Contact Water Decision Tree

DISPOSAL OF CONTACT WATER DECISION TREE




Yes
Yes
Select suitable area for disposal.
Develop/implement Site Safety and Monitoring Plan.
Yes
Has OSC/UC approved the Plan?
No
Wait for OSC/UC approval.
Dispose of Contact Water.
Is disposal meeting discharge standard?
No
Stop Discharge. Dispose of remaining volume at approved facility or continue to store on site.
End
Yes
Continue disposal process and monitor discharge.
End

APPENDIX III

Disposal of Contact Water Operational Guidance

Procedures, guidance, and standards for the proper contact water disposal or decanting operations. Given the indicators noted above and other indicators identified during the pollution incident, the OSC/Unified Command must determine a standard for the disposal of contact water into U.S. navigable waters. Any of the following proposals or combinations thereof may be chosen to support the operation. Although these standards are not all inclusive, they may be used as a starting point from which to develop a standard that would best serve the conditions of the pollution incident set before the OSC/Unified Command.

☐ **Discharge to the Point of Pure Pollutant**. This standard maximizes the amount of pure pollutant remaining in the storage resource. Monitoring is conducted by visual observation at the point of discharge. Decanted oil/water mixture is discharged into an area surrounded by containment boom that can be controlled by releasing the substance into a non-sensitive area or recovering the discharged substance. Pump rates of the decanted oil/water mixture into the contained area should be monitored and controlled closely with shutdown procedures well known by the personnel conducting the operation.

☐ **Sheen Test**. This standard ensures the amount of pollutant remaining in the storage resource is a near oil/water mixture. This standard essentially controls the discharge to the point of the definition of a "harmful quantity". Monitoring is conducted by visual observation at the point of discharge. Decanted oil/water mixture is discharged into an area surrounded by containment boom that can be controlled by releasing the substance into a non-sensitive area or recovering the discharged substance. Pump rates of the decanted oil/water mixture into the contained area should be monitored and controlled closely with shutdown procedures well known by the personnel conducting the operation.

☐ **Discharge Testing/Analysis**. This standard is the most conservative approach and controls the discharge to the desired the amount of pollutant acceptable by the OSC/Unified Command being released into U.S. navigable waters. Monitoring is conducted by testing and laboratory analysis from samples taken at the discharge point. Decanted oil/water mixture is discharged into a area surrounded by containment boom that can be controlled by releasing the substance into a non-sensitive area or recovering the discharged substance. Pump rates of the decanted oil/water mixture into the contained area should be monitored and controlled closely with shutdown procedures well known by the personnel conducting the operation. The limiting factor in conducting this type of monitor is the sample analysis time and the ability to proceed with the operation uninhibited. Where possible, within planning and preparedness efforts, sampling protocols identifying acceptable discharge levels and technical teams to conduct this monitoring procedures should be developed prior to the event.

APPENDIX IV

Disposal of Contact Water Monitoring Protocol.

During disposal of contact water operations, there is a need to monitor the operation to ensure that agreed upon standards and provisions are met and maintained during the activity. The objective of monitoring the disposal of contact water is to validate and ensure that the arrangement or setup of the operation is according to a agreed upon design and that the discharge standard developed for the operation is continually enforced.

Elements of a Good Monitoring Program.

Elements of a good monitoring program should include:

- **Clear Objectives** - Define the question(s) to be answered from the monitoring program. They must be able to support decisions on further use of the technique.

- **Meaningful Discharge Standard** - Any tests or standards developed to determine the extent of the acceptable discharge during the disposal of contact water should be operationally feasible to the extent practical. The ability to measure or determine whether the standard has been met should not be so laborious a protocol as to prohibit the possibility of conducting the operation. The discharge standard should be viewed as a "tradeoff" where our goal is to do no further harm by weighing the amount of product "decanted" or returned back to the environment versus the ability to remove, store, and contain greater amounts of pure pollutant on scene more efficiently.

- **Monitor Protocol Design** - At a minimum, the testing/monitoring regime during disposal of contact water should involve replicate observations at both discharge and non-discharge (control) areas before and after the operation. Controls should be similar to the discharge site in all ways except the actual conduct of the disposal of contact water. In some cases, it may be appropriate to use a site (before discharge) as its own control for comparing the effects after the discharge of contact water.

- **Trained Team for Preparation and Observation** - Proper monitoring during the disposal of contact water relies heavily on visual observations and an understanding of the operation's mechanism of action, environmental concerns, and expected or desired results. Thus, it is critical that the team members be both skilled in the design and implementation of the operation and trained in how to observe and monitor. Untrained team members without a background or knowledge in the ultimate objectives and goals of this type of operation will not be able to provide the Unified Command with appropriate protocols and meaningful evaluations of the operations' success, efficiency, effectiveness, and results. OSCs are strongly encouraged to use teams that are pre-identified through their respective planning doctrine.

Testing and Monitoring Procedures.

It is suggested that the testing and monitoring protocol follow five (5) levels outlined below. Depending of the questions and concerns that need to be answered during the operation will dictate which discharge measure you will use during Level 1 **(this is also addressed in the checklist provided within Appendix V and should already be complete and known before addressing desired monitoring standards)**. The decision on which protocol you will use may involve the following indicators:

- General environment where the operation is being conducted (e.g., inland, near shore, offshore, etc.);
- The location or proximity of the operation to environmental or economically sensitive resources;
- The availability of appropriate containment and storage for recovered oil; and
- The efficiency of offloading full storage receptacles (e.g., tank barge, dracone, inflatable barge, temporary shore side tanks, etc.).

Level 1: Choosing a Discharge Standard.

Given the indicators noted above and other indicators identified during the pollution incident, the OSC/Unified Command must determine a standard for the disposal of contact water into U.S. navigable waters. Any of the following proposals or combinations thereof may be chosen to support the operation. Although these standards are not all inclusive, they may be used as a starting point from which to develop a standard that would best serve the conditions of the pollution incident set before the OSC/Unified Command.

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Level 2: Effectiveness of Protocol Standard. The objective is to determine if the protocol standard is working under the existing field conditions. The protocol standard should be reviewed and approved by agency representatives and operations staff. The response operations should suggest changes to the protocol to make them feasible in the filed while meeting stated goals and objectives. They will also identify the equipment and resources necessary to support the protocol. Measures of effectiveness can be visual, as long as they are objective and well defined (e.g., sheen test, level of oil decanted and discharge, etc.) or based on sampling and chemical analysis. Be sure to evaluate:

- Equipment used to support the operation (e.g., pumps, shutdowns, containment boom effectiveness, etc.);
- What logistics are required and thus potential problems for full-scale operations;
- Physical impacts during the operation (e.g., sea state allowing oil/water separation, ability to safety pump oil from receptacle and control the rate of discharge, etc.); and
- Recoverability of decanted/discharged oil from containment area if the goal or objective is to recapture the bulk of the intended discharge.

Level 3: Effects of the Operation. The objective is to determine if the operation or use of the disposal of contact water protocol of choice results in impacts to natural resources that are likely to cause more harm than the tradeoff of not being as efficient in recovery and containment operations. This monitoring scheme in most cases can be conducted by observing the area of the discharge/containment portion of the operation. The end results of the decanted and discharged pollutant needs to be within the standard identified in the developed protocol. The main question to be answered is: "Is the tradeoff acceptable, given the noticeable increase in the ability to collect and store recovered oil on-scene?" Points to consider include:

- Has the efficiency of the recovery and collection process increased;

- Is the containment site for the decanted/discharged oil in the best feasible area to do the least harm to natural resources; and

- Have descriptive near-shore surveys at the discharge site been conducted to allow a comparison of the operation before and after the initiation of the protocol.

Level 4: Operational First-Use Monitoring. The objective is to determine if full-scale operational use of the selected disposal of contact water protocol is effective and does not have unacceptable impacts. Again, it is necessary to have a detailed monitoring plan for approval by involved agencies. Operations will need to know that monitoring will be conducted, so plans can be made to give the monitoring staff site access and notification as needed.

Level 5: Continued Monitoring. The objective is to routinely monitor the progress of the disposal of contact water operation to assess the need for modifying the protocol used. Field monitors should ensure that the approved methods are being properly implemented. Weather, sea-state, or other physical processes may render approved methods ineffective, requiring either termination of the operation or the adjustment to other methods.

APPENDIX V

Disposal of Contact Water Operational Checklist

The CRRT has developed this "Disposal of Contact Water Operational Checklist" to support and assist the OSC and Unified Command member agencies in their respective decision-making for various contact water disposal operations. This checklist could be used as a guide to ensure all issues and operational standards are addressed.

The checklist separates the operational information into the following "Steps". The completion or the need to address these "Steps" will result in a methodical protocol for decision-making or operational implementation of disposal of contact water procedures. This checklist can also be used as an operational plan for the event. The "Steps" are as follows:

- **Step 1**: Spill, Pollutant, and Environment Background Information
- **Step 2**: Evaluating the Need to Dispose of Contact Water
- **Step 3**: Operational Feasibility Checklist
- **Step 4**: Operational Acceptability
- **Step 5**: Controls, Conditions, and Monitoring

Disposal of Contact Water Operational Checklist

Step 1: Spill, Pollutant, and Environment Background Information

General Information:

A. Name of Incident: _____

B. Responsible Party (if known): _____

C. Date and Time of the Incident: _____

D. Type of Incident:
_____ Vessel Casualty
_____ Facility Incident
_____ Tank Truck Incident
_____ Transfer Operation (Vessel, Facility, Truck, or Pipeline)
_____ Explosion
_____ Vehicle Accident
_____ Blowout
_____ Pipeline
_____ Mystery
_____ Other: _____

E. Spill Location: _____
_____

F. Distance and Direction to nearest human use areas (e.g., schools, hospitals, recreation areas, surface water intakes, public wells, etc.):

Area	Distance	Direction

Pollutant/Oil Information:

G. Product(s) Released:
_____ Heavy Crude
_____ Bunker C/#6 Fuel Oil
_____ Medium Crude
_____ Diesel/#2 Fuel Oil
_____ Jet Fuels
_____ Gasoline
_____ Other (please specify): _____

H. Product Details:
Product Name: _____
Viscosity: _____
API Gravity: _____
Pour Point: _____

Percent Evaporation in: 24 Hours - _____ 48 Hours - _____

I. Estimated Volume of Released oil: _____gals _____bbls

J. Estimated Volume of oil potentially released: _____gals _____bbls

K. Release Status: _____Continuous _____Intermittent

One Time Only, Now Stopped? Yes _____ No _____

If Continuous or Intermittent, Specify Rate of Release: _____gals/bbls per hour

L. Estimated Surface Area Covered: _____acres/sqft

Environment Information:

M. Current Weather:
_____ Clear
_____ Partly Cloudy
_____ Overcast
_____ Rain/Fog
_____ Inversion

24 – Hour Projection: _____

48 – Hour Projection: _____

Wind Speed:

	Surface	Forecasted
Current Wind Speed (mph):	_____	_____
Direction (from):	_____	_____
24-Hour Projection (mph):	_____	_____
Direction (from):	_____	_____
48-Hour Projection (mph):	_____	_____
Direction (from):	_____	_____

Note: Any information from visual overflights of the slick, including estimations of slick thickness, should be included here. All additional available information pertaining to physical characterization of spilled oil should be included here.

Step 2: Evaluating the Need to Dispose Of Contact Water

General Information:

A. Are there adequate on-scene storage and containment receptacles to facilitate the recovery of the oil within the area of the proposed operation? Yes _____No _____

B. Considering the spill size, forecasted weather and trajectories, amount of available equipment, is there time to deploy additional storage and containment receptacles if needed?
Yes _____No _____

C. Considering the spill size, forecasted weather and trajectories, amount of available equipment, is there time to deploy equipment and resources that are needed to support a disposal of contact water

operation? Yes _____No _____

D. At first look and given available resources is there a need to maximize the amount of recovered oil contained in available storage tanks, vessels, bladders, etc. before having to send those resources off scene to be emptied at proper reception facilities? Yes _____No _____

E. Briefly, are the tradeoffs acceptable in conducting a disposal of contact water operation at the spill site given the natural resources and environment or economic sensitivity of the area? Yes _____No _____, Please explain:

_____
_____
_____
_____
_____
_____

Step 3: Operational Feasibility Checklist

Weather and Oil Conditions:

A. Are weather conditions (e.g., sea-state, current, winds, etc.) acceptable to conduct disposal of contact water operations? Yes _____ No _____

B. Are environmental conditions considering safety, type and condition of the oil, the ability of the oil and water to separate, and other factors suitable to conduct disposal of contact water operations? Yes _____No _____

Habitats Impacted and Resources at Risk:

A. Site Owner/Manager (federal/tribal/state/private) notified and consulted? Yes _____ No _____

Name:
Address:
Phone:

B. State Natural Resource Agency notified and consulted? Yes _____ No _____

Name/Agency:
Address:
Phone:

C. Applicable Federal Natural Resource Trustees notified and consulted? Yes _____ No _____

_____ Department of Interior/U.S. Fish and Wildlife Service/National Parks Service
_____ Department of Commerce/National Oceanic and Atmospheric Administration
_____ U.S. Forest Service
_____ Department of Defense
_____ Other: _____

D. Surface water intakes and/or public wells: Yes _____ No _____

E. Habitat Type(s) Threatened:

_____ Mangroves
_____ Seagrass
_____ Coral Reef
_____ Wetlands:
    _____ Estuarine
    _____ Riverine
    _____ Lacustrine
    _____ Palustrine

F. Seasonal Concerns: Yes _____ No _____
Comments: _____

G. Biological Resources Present: (describe significant issues such as large concentrations, breeding activities, rookeries, designated critical habitat, etc.)

_____ T&E Species, including plants (list):
_____ Mammals
_____ Waterfowl
_____ Wading Birds
_____ Diving Birds
_____ Shore Birds
_____ Raptors
_____ Fish
_____ Reptiles
_____ Amphibians
_____ Other: _____
_____ Comments/Attachments (i.e., ESI Maps, etc.)

H. Natural Areas (list)

_____ National Park:
_____ National Wildlife Refuge:
_____ National Forest:
_____ State Park:
_____ State Wildlife Area:
_____ Other Natural Areas: _____
_____ Comments: _____

I. Historic, Cultural, and Archeological Resources

_____ Unknown
_____ Not Present

_____ Present, if so, contact FOSC Historic Property Specialist and/or the State Historic Preservation Office (SHPO) pursuant to the Programmatic Agreement on Protection of Historic Properties During Emergency Response.

Name:
Address:
Phone:

Equipment and Personnel:

A. Has proposed disposal of contact water site been isolated? Yes _____ No _____

B. Is there a Site Safety Plan in place? Yes _____ No _____

C. Are the appropriate pump, containment, and other associated equipment on-scene? Yes _____No _____

D. Are the appropriate personnel on-scene? Yes _____ No _____

E. Personnel trained, equipped with safety gear, and covered by the Site Safety Plan? Yes _____No _____

F. Communications system to communicate with on site personnel and vital operational functions (e.g., shutdown, monitor staff, etc.) available and working? Yes _____ No _____

Proposed Disposal of Contact Water Operations Plan:

A. Proposed Discharge Standard (check the appropriate protocol)

☐ Discharge to the Point of Pure Pollutant

☐ Sheen Test

☐ Discharge Testing/Analysis

B. Estimated amount of oil involved in operation: Surface Area _____sq ft, Volume _____gal/bbl

C. Estimated amount of oil/water mixture to be discharged: Volume _____gal/bbl

D. Estimated duration of the operation: _____min/hr

E. Method for terminating the operation: _____

F. Ability to collect discharged substance: Yes _____ No _____

G. Monitoring protocols in place? Yes _____No _____if yes, attach additional monitoring plans/needs and specify the oversight agency. _____
_____
_____

Step 4: Operational Acceptability

Evaluation of Anticipated Operation:

A. Using an appropriate chart, plot and calculate the following locations and distances:

1. Location of proposed operation in relation to the source.

2. Location of proposed operation in reference to the nearest sensitive environmental or economic resource.

3. Location of proposed operation in reference to nearby human habitation/use areas, (e.g. towns, recreational use areas, airports/strips, roads, etc.)

B. Populations of special concern:

1. Schools _____
2. Hospitals _____
3. Communities _____

C. Is there a risk of accidental discharge from storage containers on site? Yes _____ No _____

D. Are there additional pollutants present in the oil being recovered? Yes _____ No _____

E. Will discharged oil during disposal of contact water operations be contained or properly released into an acceptable area? Yes _____ No _____

Determination of Acceptability:

A. Will the discharged oil/water mixture from the disposal of contact water operation impact a natural resource, sensitive area, or inhabited community? Yes _____ No _____

If No, Operation is Acceptable, Proceed to Step 5.

If Yes, Continue with B.

B. Can the impact be acceptably managed or are the tradeoffs acceptable? Yes _____ No _____

If yes, implement any protection measures and authorize the operation. Proceed to Step 5

If No, do not authorize the operation.

Step 5: Controls, Conditions, and Monitoring

Operational Controls, Required for All Operations:

A. Forecasted weather, winds, and sea conditions proper for intended operation? Yes _____ No _____

B. Has operation been approved by the OSC/UC? Yes _____ No _____

C. Have discharge standards been identified and are they acceptable? Yes _____ No _____

D. Is discharge area controlled by establishing a containment plan or the identification of an acceptable discharge area? Yes _____ No _____

E. Are proper shutdown procedures in place? Yes _____ No _____

Public Notifications:

A. Public notification implemented or addressed (e.g., radio broadcast, safety zone broadcast to mariners, road closure, etc.)? Yes _____ No _____

B. Press Releases communicated or addressed? Yes _____ No _____

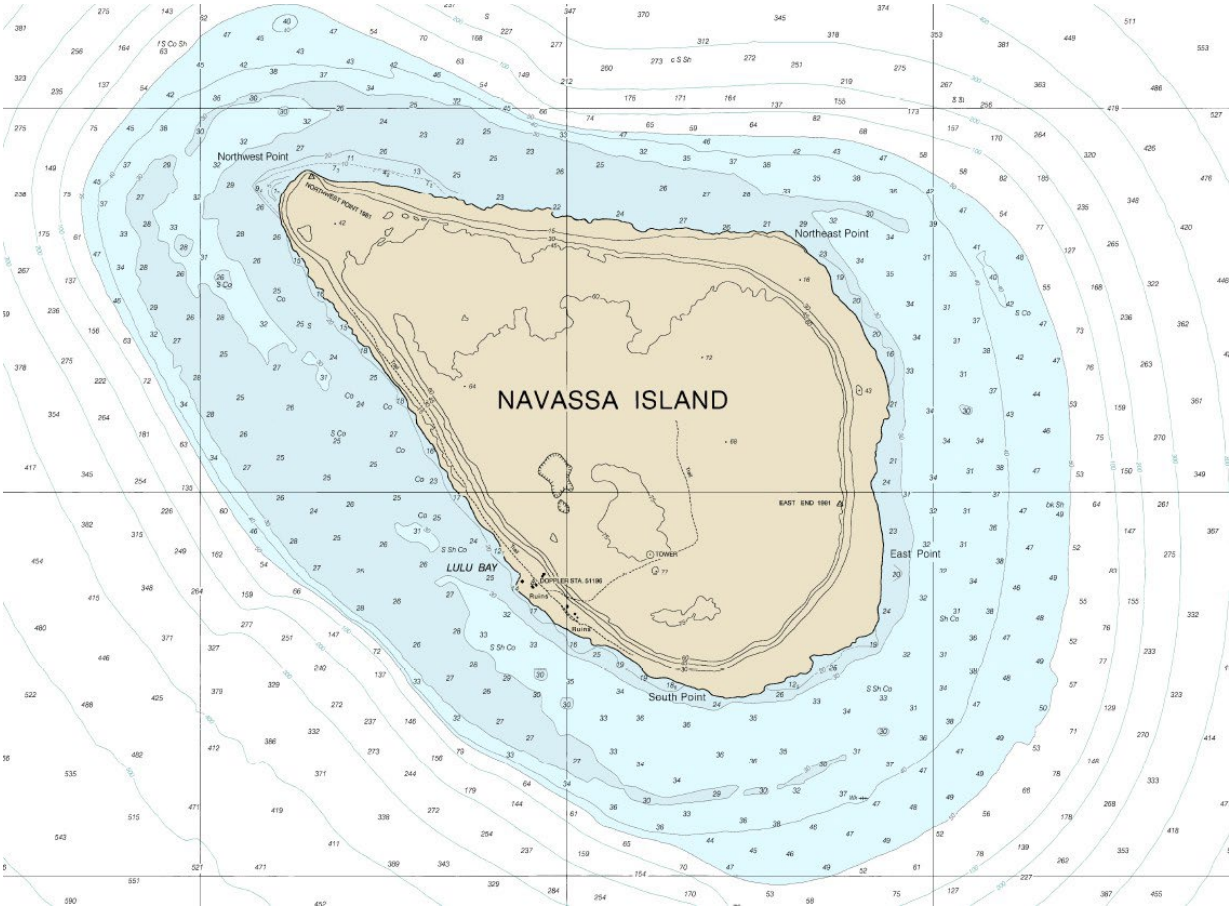
Navassa Island Oil and Hazardous Substance Contingency Plan

Geographic Boundaries and Description:

Navassa Island lies about 100 miles south of Guatanamo Bay, Cuba, between Haiti to the east and Kingston, Jamaica, to the west (latitude 18' 25" N and longitude 75' 02" W) in the Caribbean Sea. The island is approximately 5.2 square kilometers (km) in area, with a 12 nautical mile territorial sea, 200 nm EEZ and is currently uninhabited. It is an unincorporated territory of the United States and administered by the U.S. Fish and Wildlife Service as a National Wildlife Refuge.

Navassa Island is a flat to undulating raised coral and limestone plateau. The island is ringed by vertical white cliffs (9 to 15 meters high) and possesses an 8 km coastline. The highest point on the island (77 m above sea level) is at an unnamed point on the southwest side. There are no ports or harbors on the island. Only one access point exists at Lulu Bay, located on the south side of the island.

Maps, photographs and a history of Navassa Island can be found at the following website: https://coastal.er.usgs.gov/navassa/.



Oil Spill Risk Analysis and Response Operations:

Navassa Island lies in the Jamaica Channel in way of various commercial vessel routes. In 2000, the Coast Guard's Intelligence Coordination Center conducted a study of vessel traffic in the vicinity of the island. In a 9-month period, over 260 cargo vessels and over 100 tankships transited within a 40-nm radius of the island. Three tankships and one cargo vessel transited within the islands territorial sea during that same time period. In addition to cargo and tank ships, commercial fishing vessels from neighboring islands often transit the waters of the Navassa Island National Wildlife Refuge.

Response operations will be adversely impacted by the islands remote location. The island can only be accessed by small boat at Lulu Bay or via helicopter. Response equipment will most likely need to be staged from a vessel. All response contractors plan to respond by vessel.

A U. S. Coast Guard Medium Endurance Cutter and a Coast Guard Patrol Boat routinely patrol the waters around Navassa Island. Additionally, a Coast Guard C-130 fixed-wing aircraft and a HH-65 helicopter routinely transit the area. Since the Seventh Coast Guard District Maritime Law Enforcement Bulletin 13-99 requires Coast Guard assets to notify the Seventh District Command Center on any activities related to Navassa Island, a report of an oil spill will likely be from Coast Guard vessel or aircraft that can immediately assume on-scene coordinator duties.

Three oil spill response contractors with existing Basic Ordering Agreements have been identified that can respond to an oil or hazardous substance release at Navassa Island:

1. Caribbean Environmental Services: Plans to respond in coordination with NRC who maintains two vessels and one barge in St. Croix, USVI. Point of Contact (POC): Mr. Oscar Rohena, Caribbean Environmental Services (787) 286-2240/4434.
2. Induchem – POC: Mr. Miggi Ramos (787) 620-8787.
3. Caribe Hydroblasting – POC: (787) 863-1110.

The U.S. Naval Base at Guantanamo Bay, Cuba, can serve as a staging area for both Coast Guard and private response equipment. To arrange use of the U.S. Naval Base, contact Ms. Barbara Howe at 011-5-399-4662 ext. 321 or ext. 304.

USCG Sector San Juan should contact the following offices and personnel immediately after becoming aware of an oil or hazardous substance spill within the Navassa Island National Wildlife Refuge:

1. Caribbean Islands National Wildlife Refuge Manager: (787) 851-7258 x 306 or 305.
2. U.S. Fish and Wildlife Contaminants Specialist: Mr. Felix Lopez (787) 510-5208.
3. Seventh Coast Guard District Marine Safety Division via the Command Center at (305) 415-6800.
4. Scientific Support Coordinator: Mr. Brad Benggio (305) 530-7931.
5. Gulf Strike Team: (251) 441-6601.

6. Incident Management Assist Team: (757) 448-5572.
7. National Oceanic and Atmospheric Administration (NOAA) Damage Assessment and Restoration Program: (301) 713-3038.
8. Maintenance and Logistics Command (MLC): (757) 628-4566/4564.

Resources at Risk: Navassa Island is surrounded by various reef formations composed predominantly of soft corals and sponge habitat. Individual reef colonies are found on the submerged vertical walls of the island. Massive coral reefs are not found in the area. According to the Center for Marine Conservation (CMC) 2000 Expedition Report, the Navassa Island refuge includes virtually pristine waters with corals apparently free of the coral disease found elsewhere. There is a great diversity and abundance of invertebrate and plant life comprising the coral reef community.

Shoreline: Vertical cliffs composed of limestone rock (ESI 1A and 2A) characterize the shoreline.

Sea Turtles: There are no sea turtle nesting habitat on Navassa. However, it is a feeding ground for hawksbill turtles. Hawksbill sea turtles feed on sponges found on the island's reef.

Sea Birds: There are several species of seabirds that use the island for nesting and roosting. These include the brown, red footed and masked booby, frigate birds and terns.

Island flora and fauna: Navassa has a native biota that is relatively complex for an island of its size and includes a significant number of plants and animals that occur nowhere else. The macro-biota (vascular plants, vertebrates and more conspicuous invertebrates) consists of 82 known indigenous species. It is already known that at least 12 species are endangered or severely depleted. Two endemic lizards *Cyclura nigerrima* and *Leicocephlus erimitus* have been considered extinct for many years. Numerous plant and animal species native to Navassa are endemic and occur nowhere other than this island. The small size of the island has resulted in a high rate of endemism in these organisms. Based on updated taxonomy, 15 terrestrial plant and animal species (9 species, 4 subspecies, and 2 plant varieties) are known with certainty to be endemic to the island. Numerous other species are thought also to be unique to the island but are not included in these figures due to inadequate information. CMC expects that many more species will be recognized endemic to the island once the results of the 2000 expedition and subsequent surveys have been assessed.

The Navassa biota also includes several species that occur only on a small number of islands. For example, the herb, *Chamaesyce hepatica*, occurs only on Navassa and two offshore islands; however, as Navassa is less accessible and less developed than the other islands, it provides the best refuge for the species. This is an example of a general pattern: the island's remoteness and inaccessibility enable it to serve as an important refuge for several West Indian species that, while not restricted to the island, have very limited distributions.

Additional information on the islands flora and fauna can be found at the following website: https://coastal.er.usgs.gov/navassa/. Information on the reptiles of Navassa Island can be found at http://198.209.196.35/bobpowell/6pownav.htm.
Response Operations: The primary objectives for a pollution response at Navassa Island include protecting sea birds and the fringing coral reef and preventing adverse impacts to the unique flora, fauna, and cultural resources on the island.

Endangered Species Act (ESA) and Essential Fish Habitat (EFH) Consultation: Federally listed or endangered species include whales, hawksbill and green sea turtles, and roseate terns. Department of Interior Trust Resources include federal lands, migratory birds and endangered species. Numerous species of flora and fauna are endemic to Navassa Island and must be protected.

The waters that encompass Navassa Island, out to 12 nm, are classified as Essential Fish Habitat.

The Federal On-Scene Coordinator should immediately consult with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service to document an ESA and EFH consultation. This can be accomplished by contacting the Seventh Coast Guard Marine Safety Division (see contacts above) who will coordinate with the Caribbean Regional Response Team.

Cultural Resource Considerations on Navassa Island: Navassa Island contains extensive, apparently extremely well preserved historic properties whose protection is mandated by the National Historic Preservation Act and related federal laws and regulations. These include architectural and archeological remains from nineteenth century guano mining operations on the island (including barracks, houses, warehouses, a church, a blacksmith shop, and a railroad line), and a 162-foot lighthouse and associated keepers station built in 1917. In addition, prehistoric remains from the several thousand years of human occupation in this part of the Caribbean may be present, although this has not been confirmed by a formal archaeological investigation. A popular history of the island, including pictures of the lighthouse complex, may be found at: https://coastal.er.usgs.gov/navassa/

A programmatic agreement (PA) on procedures to be used during an emergency response was developed by the National Response Team (refer to http://www.achp.gov/NCP-PA.html). This PA describes, in general terms, procedures the FOSC should follow in the event of an emergency and, once the emergency period is past, in subsequent clean up or stabilization phases of the action.

By the Secretary of the Interior's Order No. 3210 of December 3, 1999, the U.S. Fish and Wildlife Service (USFWS) assumed administrative responsibility for Navassa Island, which became a National Wildlife Refuge Overlay. Coordination regarding the protection of cultural resources, accordingly, should be made through USFWS. Mr. Val Urban, Caribbean Islands National Wildlife Refuge Manager; Mr. Richard Kanaski, USFWS Regional Archaeologist; and Mr. Felix Lopez, USFWS, should be notified immediately (refer to contact list above).

In addition, the National Conference of State Historic Preservation Officers (NCSHPO) or the Advisory Council on Historic Preservation (ACHP) [http://ncshpo.org/resources/section-106/] are also signatories to the PA and can provide assistance during a response operation.

Response Operations: In general, the following steps should be taken during a response to address archeological and cultural resources: (1) identify possible threatened cultural resources; (2) identify specialists who can provide assistance and, if necessary, establish contracts with them; and (3) consult with local authorities responsible for oversight of cultural resources.

Specific actions include:

1. Notify USFWS personnel with oversight for the island as noted above, and request that they consider cultural resources in their planning.
2. In the absence of a cultural resources survey on Navassa Island, response team members should assume the obvious historic resources on the island (i.e., standing architecture, obvious artifact scatters) are significant. Accordingly, they should exercise care and consideration when mobilizing people and equipment.
   In addition, shoreline areas, or level terrain overlooking the ocean, may have been highly favored locations for prehistoric human settlement or use. Care should be exercised in the movement of people and equipment in these areas. Heavy equipment use should be avoided, if possible, until a cultural resource specialist can check these areas for possible cultural resources.
3. If at all possible, all people and equipment involved in emergency responses should avoid obvious historic properties or, should contact prove be necessary, this should be done in consultation with a cultural resources management specialist and with consideration for the resources in question. Destruction of cultural resources is to be avoided at all costs, unless absolutely necessary to maintain public health and safety.
4. Once the emergency response period is past, routine clean up operations must be conducted in compliance with existing federal historic preservation legislation.
5. Response team members and clean-up crews must be educated about the importance of cultural resources, and the strict federal penalties (misdemeanor or felony, depending on the extent of the damage) for their looting or vandalism, under the Archaeological Resources Protection Act.

Natural Resource Damage Assessment (NRDA): NOAA's Damage Assessment and Restoration Program (DARP) conducts natural resource damage assessments and restoration of coastal and marine resources injured as a result of oil spills, releases of hazardous substances, and ship groundings. The NMFS Southeast Regional Office in St. Petersburg, Florida, is responsible for coordinating NRDAs in the Caribbean Region.

As noted above, contact Mr. Jim Jeansonne, NMFS, at (727) 570-5391 ext. 159, immediately after being notified of an oil spill or hazardous substance release to initiate the NRDA process. Information on NRDAs can be found at http://www.darp.noaa.gov/

Caribbean Regional Response Team Information and Lessons Learned During Emergency Response Operations For Vessel Groundings Involving Oil Spills In Coral Reef and Seagrass Habitats

Developed by the
Caribbean Regional Response Team

Final August 2015

Caribbean Regional Response Team
Information and Lessons Learned During Emergency Response Operations
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Introduction

The global decline in the condition of the coral reef ecosystem (that includes seagrass beds, coral reefs, colonized hard bottoms, and mangrove wetlands) is a crisis that places a multitude of human, natural, and economic needs in jeopardy. The rapid decline of the world's productive and economically vital coral reef habitats represents a serious threat to consumers, business, communities, cultures, and the environment. Significant progress has been made to map, monitor, and conserve U.S. and other coral reef ecosystems to ensure that these valuable ecosystems survive the current threats from pollution from coastal development, over-fishing, over-use, and other impacts.

Declines in Caribbean coral reefs, once dominated by elkhorn and staghorn corals and the other primary framework-builders, the star coral complex of the genus *Orbicella* (formerly *Montastraea*) in shallow waters of the insular shelf throughout the Caribbean, have occurred due in part to natural factors such as hurricanes and human-driven impacts such as sedimentation and eutrophication from coastal development and boating. These declines prompted the National Marine Fisheries Service (NMFS) to list elkhorn (*Acropora palmata*) and staghorn (*A. cervicornis*) corals as threatened under the Endangered Species Act (ESA) on May 6, 2006, throughout their range in U.S. waters in Florida, Puerto Rico and U.S. Virgin Islands. These declines also prompted NMFS to publish a Final Rule on September 10, 2014, listing the following additional corals as threatened under the ESA: pillar coral (*Dendrogyra cylindrus*), rough cactus coral (*Mycetophyllia ferox*), lobed star coral (*Orbicella annularis*), mountainous star coral (*O. faveolata*), and boulder star coral (*O. franksi*). The importance of other components of the ecosystem, such as seagrass beds, for ESA-listed species such as sea turtles has also resulted in the designation of critical habitat by NMFS for areas such as the seagrass beds 3 nm around the island of Culebra and its surrounding islands and cays.

Vessel groundings on coral reefs can cause extensive environmental degradation from the spilling of oil and the mechanical impacts of the grounding such as crushing, breakage and scarring. Boating impacts from both large commercial vessels and recreational vessels was one of the stressors identified by NMFS in the ESA listing of Atlantic acroporid corals. These groundings can also impact other components of the ecosystem such as seagrass beds due to oil toxicity and mechanical impacts such as propeller wash, scarring and dredging and scraping by the keel of the vessel.

This document will provide planning guidance and information to Area Contingency Planners concerning actions and considerations for response to a vessel grounding that has resulted in an oil spill in coral reef habitats. This information has been gleaned from past incidents where lessons learned were identified, in an effort to improve decision-making and overall effectiveness, while minimizing further injury to the coral reef ecosystem.

What is the Coral Reef Ecosystem?

Corals are individual animals called polyps. Corals are cnidarians in the family of jellyfish and anemones. Polyps are mobile only during their larval or planular stage when they are free-swimming in the water column. When coral larvae settle on a suitable hard substrate, they become sessile and most begin to divide to form a coral colony. Coral polyps are small animals with tentacles around a central opening. In addition to catching food in their tentacles, coral polyps have unicellular algae called zooxanthellae living in their tissues in a symbiotic relationship. The algae use waste products produced by the polyps and the polyps use byproducts of photosynthesis produced by the algae for sustenance. There are four types of corals: hard or stony, soft, black corals, and fire corals. Hard corals are the main building blocks of coral reefs. Coral reefs occur in subtropical and tropical oceans worldwide. Corals require hard substrate and warm, clear ocean water to form reefs. Corals are sensitive to factors such as high turbidity, low salinities, high nutrient concentrations, and high temperatures. In the southeastern United States coral reefs are restricted to Florida, some areas of the Gulf Mexico, and in Puerto Rico and the U.S. Virgin Islands in the Caribbean.

The coral reef ecosystem also includes habitats such as mangrove forests and seagrass beds. There are four species of mangroves: red (*Rhizophora mangle*), white (*Lacunaria racemosa*), black (*Avicenia germinans*), and button (*Conocarpus erectus*) in the U.S. Caribbean. Red mangroves are the most common species along the coast and on offshore cays, although white and black mangroves may also be present in these areas. Mangroves are salt resistant trees or shrubs that have evolved different strategies for eliminating salt from the tissues and tolerating flooded conditions. These include aerial roots of red mangroves, pores at the base of the leaves of white mangroves, and pneumatophores that grow from the roots of white and black mangroves and serve as gas exchangers. The roots of red mangroves often support a diverse community of organisms such as sponges, algae, oysters, and corals and provide nursery habitat to many species that migrate to the coral reef when adults such as spiny lobsters, snappers and groupers.

There are several species of seagrass reported in the U.S. Caribbean. The most common species in shallow areas where groundings and response actions typically occur are turtle grass (*Thalassia testudinum*), manatee grass (*Syringodium filiforme*), and shoal grass (*Halodule beaudettei*), although paddle grass (*Halophila decipiens*) may also be present. Seagrass are true plants with roots, leaves, stems, flowers and fruits. Seagrasses are common in coastal areas naturally protected from heavy waves and currents with clear waters, although paddle grass can tolerate higher turbidities than other species of seagrass. Seagrass forms large expanses known as seagrass beds in shallow coastal waters. Seagrass beds provide important habitat, including nursery habitat, for many coral reef species that later migrate to coral reefs when adults.

Coral Reef Ecosystem Importance:

Coral reef ecosystems are very important to the ecology and the economy where they occur. The wave breaking ability of coral reefs helps limit the damage to the coastline caused by hurricane generated waves. Similarly, mangrove forests protect the coastline from heavy waves and

seagrass beds serve as baffles diminishing the force of waves and currents. Coral reefs and associated systems such as mangrove forests and seagrass beds also support one of the highest levels of species diversity of any habitat in the world providing forage, refuge, nursery and reproductive habitat for numerous marine organisms. Many of these species such as spiny lobsters, queen conch, groupers, and snappers, support a large and valuable fishery. The beauty and diversity of coral reefs also support a large recreational diving and fishing industry, which in turn supports many other service related businesses.

How Oil Effects the Coral Reef Ecosystem:

In the event of a spill, oil will pass over sub-tidal reefs and seagrass beds with no direct contamination. Areas of coral reefs and seagrass beds that are exposed during low tide are at risk to smothering from oil. Except in the event of extremely heavy oil concentrations, oil will be readily removed from these areas with the rising tide. Studies have shown sub-lethal impacts with short-term recovery in these instances. Some of these effects would include reduction in the functionality or expulsion of zooxanthellae (bleaching), impaired feeding, impaired sediment cleaning ability, increased mucus production, and tissue death in corals and reduced epibiotic community, photosynthetic ability and death in seagrass.

The greatest threat to a coral reef is the spill of a light refined product directly into the shallow water over the reef, where high concentrations of the toxic water-soluble components could persist long enough to cause impacts. If a spill happens during a storm event, the oil may be driven into the water column. This subsurface oil could be a threat to corals that would not normally be at risk during an oil spill.

The coral reef ecosystem supports a tremendous diversity of plants and animals. An oil spill may severely affect the health of the larger reef community. Many sponges, plants, and mollusks are sessile and unable to avoid the effects of the spill. Some of the more territorial fish will even remain in the area until death. Epibionts and seagrasses themselves are sessile and cannot avoid the effects of the spill either.

Although not a direct result of oil contact, physical damage from a vessel grounding related to an oil spill event, and the ensuing response, should be considered. Salvage efforts should be directed to remove the vessel so as not to cause further damage to the reef or seagrass bed. Of particular concern is the impact from propeller wash, propeller scarring, and propeller dredging by the grounded vessel and the tugboats that assist. Propeller wash can cause sediment to cover undamaged coral. If this sediment is not promptly removed the corals can suffocate. Propeller wash can lead to blowouts and deepening of seagrass beds. Salvage vessels operating in shallow areas can cause propeller scarring or propeller dredging in seagrass beds in addition to impacts to corals. Salvage operations should be conducted using vessels whose draft is appropriate to the water depths. Similarly, the depth of the propeller below the response vessel also needs to be considered and the motor may need to be raised and operated at lower speeds to avoid or minimize propeller impacts. Steel cables can cut wide swathes of in corals and seagrass beds, as the tugboat frees the grounded vessel. Floating towlines should be used instead to avoid these impacts. Any anchoring required during the salvage operation should be in unvegetated and

uncolonized sandy bottom. If sandy bottom areas are not present in the area, sand screws or Halas®-type moorings should be installed in seagrass beds and anchoring in coral areas should be avoided unless not anchoring would cause more damage to reefs. Any mooring buoys installed should have the anchor chain or line supported with a float so that the line does not clear a halo of marine bottom around the mooring.

Clean Up Options for the Coral Reef Ecosystem:

Every effort should be made to minimize the amount of oil that is allowed to enter the coral reef ecosystem. These efforts should not cause additional damage or slow the natural recovery of the affected area. Studies have shown that leaving the wreck on the reef or in seagrass beds has the potential to cause further degradation of the reef ecosystem through movement or shading.

Booming:

Booms should be deployed to divert the oil from the reef, seagrass bed or mangrove forest. Collection boom, if used, must be positioned so as not concentrate the oil in the area of the coral reef or seagrass bed to the maximum extent practicable. Sorbent booms can be used to collect the oil, and will need to be changed periodically. Care must be taken in anchoring booms so as not to damage the corals or seagrass beds. Anchoring should be in unvegetated sandy bottoms or using sand screws in seagrass beds to the extent practicable. Boom should never be allowed to come in contact with the reef or the marine bottom.

Chemical Dispersants:

Guidelines developed by the American Society for Testing and Materials (ASTM) recommend dispersants be considered for use in the vicinity of reefs to prevent floating oil from reaching any emergent portions of the reef. The use of dispersants should be evaluated in waters greater than 10 m in depth, to reduce the risks of oil to sensitive habitats on shore. Experiments conducted in Panama in 1987 (TROPICS Ballou, et al 1987) using oil and dispersed oil in a mangrove, seagrass, coral reef environment indicated that use of dispersants in deeper water would reduce the exposure to shore side communities without toxic concentrations impacting the coral reef. The use of dispersants in the Caribbean should be according to the established requirements for consultations with resource agencies such as ESA Section 7 with NMFS and the U.S. Fish and Wildlife Service (USFWS).

Natural Recovery:

If oil makes contact with the reef or shallow seagrass bed, it may be naturally removed on the next rising tide. Once the oil is on the reef, there is no effective way to remove this oil without causing more damage to the reef. Natural recovery would be the best response method under these circumstances. It may be possible to remove oil from shallow seagrass beds but this will depend on the location of the area and extent of oiling.

The Vessel Grounding Occurs

The crunching sound of the impact between ship and the ocean bottom is a frightening sound for any mariner. The damage to the ship is not the only damage the grounding causes. Depending on the type of bottom, the vessel's impact may have substantial effects on the environment. These effects range from the minor displacement of sediment on a mud or sand bar to catastrophic damage to coral reefs or seagrass beds. By following a few simple procedures the impacts of the grounding on the environment can be greatly minimized.

Initial Actions

Immediately following the impact, the vessel's master should determine the extent of damage to the vessel and crew and take proper action to ensure their safety. Communication with the U.S. Coast Guard should be initiated immediately.

A grounded vessel may be determined to have been abandoned, creating additional challenges due to the lack of an owner/operator. In response to growing concerns over abandoned vessels throughout US waterways, the National Response Team (NRT) developed the "Abandoned Vessel Authorities and Best Practices" guidance document. The document provides OSCs with information about the regulatory and policy authority of each agency having a major nexus to abandoned vessels; roles and responsibilities of each agency pursuant to those authorities; best practices used for responding to abandoned vessels; and options for removal and ultimate disposition of abandoned vessels. The document offers a wide array of solutions to abandoned vessels including abatement of pollution, removal of the abandoned vessels through a variety of alternative programs, or application of navigable waterway solutions. Based on previous case studies, it has been observed that a combination of both federal and state authorities and programs may provide the most effective and comprehensive approach for addressing abandoned vessels.

The first impulse is to power the vessel off the bottom. This action may greatly damage the ocean bottom habitat in the area and could cause further damage to the vessel. The vessel's propeller wash will scour the bottom and the displaced sediment will cover undamaged substrate in the area. Before attempting to power off, determine the extent of the grounding. If the vessel is barely aground and the ocean bottom has not created any known damage to the vessel, an attempt to back out of the same area the ship entered may be warranted. However, if the vessel is hard aground or has caused damage to seagrass beds or corals, it may be necessary to wait for the next high tide, tug support, and conduct a thorough damage survey of the hull, voids, and tanks before attempting to refloat the vessel. If the vessel has grounded in an area with ESA-listed corals and damage to the corals has occurred, all possible care must be taken to avoid additional impacts to these corals as part of the vessel removal operation. The response will also require an emergency ESA Section 7 consultation with NMFS and/or USFWS if ESA-listed species or designated critical habitat may be impacted by the response actions.

The Environment and Weather

Wave activity may cause the vessel to roll excessively and "work" on the ocean bottom, comprising the vessel and creasing the damage to the hull and ocean floor. Taking on additional ballast into clean tanks may minimize the rolling motion if the vessel is being driven harder aground by the wave action. The use of minimal astern propulsion may be useful in countering this effect.

Winds and currents can also affect the vessel's ability to remain stable within a tidal energy zone. If the surf action is severe, safety of the vessel's crew while on deck should be a priority. The deck of the vessel could become immediately awash carrying members of the crew over the side.

Salvage Support

The proper use of tugs during high tide can minimize the damages to the environment. The tug should use a floating hawser instead of steel towing cables to stabilize or refloat the vessel. As the vessel and tug pivot during the removal process, the catenary in the steel cables can act like a scythe on the ocean bottom. The back and forth motion may destroy acres of seagrass and coral. The towing vessel should be deployed in the deepest water available and use the least amount of power necessary to free the vessel. Propeller wash from the tug and the vessel if under power can also damage to the ocean bottom. Propeller scarring can result in the removal of seagrass beds or corals in paths followed by the salvage vessels. In addition, the operation of vessels in shallow areas can lead to propeller dredging resulting in the deepening of the bottom and the removal of submerged vegetation or burial of hard substrate.

Once the decision is made to refloat and move the vessel, it is best if the vessel is removed on the same track line as she grounded. This ensures that further damage to the bottom resources will be minimized. Also this will reduce the possibility of damage to the vessel from unseen hazards if removed via a different route. If possible, a bottom survey should be conducted and an egress channel should be identified or marked. When marking the channel, care should be taken not to cause additional damage to coral habitats or seagrass beds.

Vessel Discharges, Fluid Transfers, and Lightering

Upon grounding, at the soonest opportunity, the vessel's tanks and voids should be sounded. The type, location, and amounts of all oil should be identified. It may be necessary to shift fluids internally to stabilize the vessel or during refloating operations. The shifting of fluids should be in accordance with any agreed upon salvage plans. If possible, the identification of tankage to move oil products from the skin of the vessel's hull should be identified.

Under no circumstances should oily ballast water be released into the ocean. Consultation with the U.S. Coast Guard (USCG) should take place before releasing freshwater, heavily discolored,

or super saline ballast. Lightering of any fluids from the vessel should be in accordance with salvage/lightering proposals/plans accepted by the U.S. Coast Guard/Unified Command.

Grounding in Areas with ESA-Listed Coral or Designated Critical Habitat

On May 9, 2006, NMFS published the listing of elkhorn and staghorn corals as threatened under the ESA. On October 29, 2008, NMFS published a 4(d) rule extending "take" (harm, kill, damage, transport, etc.) prohibitions to the two species. The 4(d) rule for elkhorn and staghorn corals exempts response activities such as emergency restoration of elkhorn and staghorn corals damaged by a grounding. NMFS also published a rule designating critical habitat for elkhorn and staghorn corals on November 26, 2008. Critical habitat units for elkhorn and staghorn corals encompass large areas around Puerto Rico and the U.S. Virgin Islands (USVI) in waters up to 30 meters in depth where substrate suitable for the settlement and growth of these 2 coral species is present.

On September 10, 2014, NMFS listed pillar coral, rough cactus coral, lobed star coral, mountainous star coral, and boulder star coral as threatened under the ESA. On January 15, 2015, NMFS published an advanced notice of proposed rulemaking for the creation of a 4(d) rule for these 5 species of corals.

Critical habitat has also been designated in the U.S. Caribbean for 3 species of sea turtles. Leatherback sea turtle critical habitat was designated March 23, 1979, and includes waters adjacent to Sandy Point, St. Croix, USVI, up to and inclusive of waters from the hundred fathom curve shoreward to the level of mean high tide. Green sea turtle critical habitat was designated September 2, 1998, and includes all areas up to 3 nautical miles (nm) around the island of Culebra and its surrounding islands and cays, Puerto Rico. Hawksbill sea turtle critical habitat was also designated September 2, 1998, and includes all areas up to 3 nm around Mona and Monito Islands, Puerto Rico.

Response actions need to operate so as to avoid or minimize additional impacts to ESA-listed corals and designated critical habitat to the maximum extent practicable. The responsible party is not exempt from take prohibitions under the 4(d) rule for elkhorn and staghorn corals. Federal response agencies are also not exempt from the need for take authorization prior to certain response actions that could lead to additional impact to ESA-listed corals. Federal response agencies are also required to consult with NMFS if their response action will result in the destruction or adverse modification of designated critical habitat (see http://sero.nmfs.noaa.gov/maps_gis_data/protected_resources/critical_habitat/index.html). An emergency consultation should be completed with NMFS to address all potential impacts to ESA resources during a response.

Lessons Learned from M/V Jireh Response

In June 2012, the M/V Jireh grounded on the west side of Mona Island, Puerto Rico. The area contains designated critical habitat for elkhorn and staghorn corals and for hawksbill sea turtles, the area also contains ESA-listed corals and hawksbill sea turtle nesting habitat. The response was closely coordinated with NMFS, USFWS, and other local and federal resource agencies, and local and federal trustees. Despite the implementation of avoidance and minimization recommendations to protect ESA resources, some impacts to nesting sea turtles related to disorientation from lights and some impacts to ESA-listed corals related to anchoring by response vessels, anchoring of boom, and the movement of the vessel during storms. Below are the recommendations NMFS developed to inform the USCG during future response actions. These are general recommendations only and many reflect some of the information contained in other sections of this document. Best management practices (BMPs) specific to a particular response may also be necessary based on site-specific conditions.

1. NMFS should be included in early conversations with the salvor to discuss specifics of the response operation in order to select which BMPs are most appropriate or develop BMPs relevant to a particular response as necessary.

2. Based on the methodology for the salvage operation, areas shall be selected in coordination with NMFS and based on benthic surveys for actions such as towing of vessels, anchoring, and spudding in order to minimize impacts to ESA-listed species and designated critical habitat.

3. Cargo should be assessed early in the process and organics should be removed quickly to avoid hazardous build-up of gases in the hold and the potential use of chemicals to reduce hazardous levels of the gas to protect response workers as these chemicals could impact marine resources. If cargo cannot be removed quickly, then a seawater pumping and filtering system similar to that used during the M/V Jireh response should be designed and implemented in coordination with NMFS and USFWS.

4. Fuel and cargo should be offloaded from the grounded vessel to reduce the vessel's draft and minimize the potential for environmental hazards, such as spills.

5. Boom should be deployed around the grounded vessel to minimize the potential for transport of materials outside the immediate area of the grounding. The location of boom anchors should be coordinated with NMFS based on surveys of the area immediately following the grounding as long as sea state permits the safe completion of these surveys. Booms and other underwater equipment should be monitored during the response action to ensure they do not cause damage to ESA-listed species, including breakage or abrasion of corals and entrapment of sea turtles.

6. All response vessels should be required to comply with NMFS's *Vessel Strike Avoidance Measures and Reporting for Mariners*.

7. When applicable to the response action, compliance with NMFS's *Sea Turtle and Smalltooth Sawfish Construction Conditions* should be required.

8. Anchoring of all response vessels should be in uncolonized sand bottoms only. The installation of mooring pins or other anchor systems that eliminate the use of non-floating line and minimize impacts to bottom substrate is preferred if uncolonized sand areas are not available or are not large enough to anchor the vessels. Anchor methods and anchor and spud locations should be selected in coordination with NMFS for all response vessels associated with a particular response action.

9. Salvage activities should be conducted at high tide to facilitate refloating the grounded vessel over areas containing ESA-listed species and designated critical habitat.

10. The response area should be surveyed daily by divers to ensure proper placement of anchors, lines, and other equipment, and to remove debris and other materials to avoid damage to ESA resources, including corals, sea turtles, and designated critical habitat.

11. Properly tie-down or secure all equipment in designated areas to prevent accidental loss of equipment into the water. Any debris that accidentally falls into the water during response actions should be retrieved immediately.

12. A protected resources monitor should be on-site to monitor response impacts, BMP compliance, protected species sightings, and prepare daily summaries so that steps can be taken to address issues such as BMP non-compliance or unanticipated impacts to ESA resources that require the implementation of additional BMPs.

13. In areas where sea turtle nesting is known to occur, deck lighting at night should be minimized so as not to attract sea turtle hatchlings or disorient nesting females. Lighting of night operations should be shielded to avoid attracting in-water sea turtle hatchlings to the response area. Similarly, lighting of night operations along the coastline should be minimized and a lighting plan developed in coordination with NMFS and USFWS to ensure that nesting females are not affected by light pollution.

14. If a vessel will be refloated and towed out of an area, an extraction path having the least impact on ESA resources shall be selected in coordination with NMFS and based on benthic surveys of the area. This path may not be the same as the ingress path. Once the extraction path has been agreed upon, temporary buoys should be used to mark the extraction path and GPS plots of the path should be input into the grounded vessel's GPS and all towing vessels' navigation systems to assist the salvors in staying on course.

15. In shallow waters, in order to minimize the potential for propeller wash damage to ESA resources, the use of propulsion systems and high RPMs should be avoided. If this is not possible, then areas for these operations should be selected in coordination with NMFS and based on benthic surveys of the site.

16. If a vessel will be scuttled, after obtaining all required permissions, alternative locations for scuttling the vessel both close to the grounding site in deep water and further offshore in deep water should be selected in case the vessel proves too unstable to float a long distance from the grounding site. Appropriate measures should also be taken to secure the vessel at the scuttling location to minimize the risk of movement of the sunken vessel during storms.

17. The BMPs required for the protection of ESA resources for a particular response shall be included in the salvage plans and IAPs for each response.