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Guidelines for the Development of Joint Spill Response Exercises within the Framework of the Sub-regional Contingency Plans

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Foreword

In accordance with Article 17 ‘’Sub regional Agreements’’ of the Protocol concerning Cooperation in Preventing Pollution from Ships and, in Cases of Emergency, Combating Pollution of the Mediterranean Sea (the 2002 Prevention and Emergency Protocol) to the Barcelona Convention, a series of Sub-regional Contingency Plans (SCPs) have been developed and adopted through multilateral agreements, in different subregions of the Mediterranean . These SCPs aim to strengthen cooperation and mutual assistance among the Parties involved. The Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC), within its mandate and based on a predefined short-, medium-, and long-term programme, has significantly contributed to the development and implementation of these SCPs.

Given the limited number of joint exercises conducted so far, and drawing from lessons learned - particularly in linking National Contingency Plans (NCPs) with SCPs - it became essential to further support the achievement SCPs’ objectives. This includes adapting exercise scenarios to the desired level, from tabletop simulations to full-scale exercises, and clearly distributing roles and responsibilities. Moreover, to enhance the synergy between SCPs, the need for a dedicated guidance document on conducting joint spill response exercises has become evident.

Acknowledging this need, REMPEC, has taken the opportunity presented by the preparation of the Joint Spill Response Exercise within the SCP between Threatened Members, Responder 1, Responder 2 (CypEx 2024) to develop the " **Guidelines for the Development of Joint Spill Response Exercises within the Framework of the Sub-regional Contingency Plans**."

This document is intended for use by Mediterranean countries members of SCP(s) to conduct joint tabletop or real-case exercises. It is designed to facilitate the preparatory work for participating countries and to address any technical or logistical issues that may arise during the design, planning, preparation and execution of such exercises.

The Guidelines are structured into two distinct parts, each designed with a specific objective and tailored for different end-users.

- **Part I** provides a comprehensive, generic framework intended to guide the organization of any type of joint exercise within SCPs.

- **Part II** outlines all the necessary steps, offering a detailed, adaptable process that can be customized to suit the specific type of exercise being planned.

Each part serves a different purpose, ensuring that users have the flexibility and guidance needed for successful joint exercises.

PART I

EXECUTIVE SUMMARY

Comprehensive Guidelines for Joint Spill Response Exercises

Effective preparedness for oil spill incidents requires a structured approach to coordination, communication, and response planning. Joint spill response exercises serve as critical tools for evaluating the functionality of contingency plans, testing inter-agency cooperation, and identifying gaps in preparedness frameworks along with proposing solutions to address these gaps. This document provides a comprehensive set of guidelines designed to optimize the planning, execution, and evaluation of such joint exercises.

Drawing on observations and lessons learned from past exercises within existing Subregional Contingency Plans (SCPs), these guidelines aim to ensure clarity in role assignment, enhance communication systems, and improve scenario design to reflect real-world complexities. By addressing key aspects such as moderation, scenario adaptability, and post-exercise evaluation, these guidelines serve as a robust foundation for strengthening regional collaboration and readiness. They are tailored to meet the needs of all stakeholders, from national governmental and operational authorities to regional organizations, ensuring that each participant is prepared to respond effectively to marine pollution incidents.

These principles reflect a commitment to continuous improvement, emphasizing the importance of structured processes, dynamic planning, and a unified approach to safeguarding marine environments and coastal communities. Through systematic implementation of these guidelines, joint spill response exercises can transition from mere simulations to actionable strategies, enhancing the overall resilience of response mechanisms.

Exercise Scope and Scenario Design

- **Defining the Scope of the Exercise:** The scope of an exercise forms its foundation and should clearly outline the objectives, geographical coverage, participating stakeholders, and expected outcomes. A well-defined scope ensures alignment of all activities with overarching goals. For example, if the exercise aims to test cross-border collaboration, the scope should include challenges like shared environmental risks or resource limitations. A clear scope helps participants understand their roles and prevents deviations during execution.
- **Scenario Development:** An effective scenario must challenge participants while remaining achievable within the exercise's framework. Scenarios should outline specific instructions for each participant, clearly defining roles to eliminate confusion. For example, a detailed oil spill scenario might involve multiple steps such as initial notification, resource mobilization, containment efforts, and recovery operations. By aligning these steps with national and regional contingency plans, participants gain practical experience in implementing established protocols.
- **Dynamic and Adaptive Scenarios:** To reflect the unpredictable nature of real-world incidents, scenarios should incorporate dynamic elements such as weather conditions, spill trajectory predictions, and varying resource availability. Using predictive models, such as trajectory simulations, helps participants prepare for complex variables. For instance, if a spill scenario involves worsening weather, participants must adjust their response strategies in real-time, mimicking real-life decision-making processes.

Standard Operating Procedures (SOPs) and Checklists

- **Preparation and Testing of SOPs:** SOPs serve as a blueprint for action during incidents. Exercises provide an ideal platform to test these procedures, ensuring they are practical and effective. For instance, SOPs for oil containment might detail the sequence of deploying booms,

skimmers, and temporary storage facilities. By testing these steps during exercises, teams can identify inefficiencies or areas requiring improvement.

- **Alignment with Contingency Plans:** All SOPs and checklists should align with the provisions of the National Contingency Plans (NCPs) and Sub-regional Contingency Plan (SCP). Exercises should evaluate whether these documents adequately address real-world challenges, such as resource mobilization delays or communication gaps. Testing them against realistic scenarios ensures that they remain relevant and actionable.
- **Enhanced Usability Through Checklists:** Checklists simplify complex procedures by breaking them into actionable steps. For example, a checklist for shoreline response might include tasks such as identifying sensitive habitats, deploying protective booms, and coordinating with wildlife experts. These tools ensure consistency and reduce the likelihood of oversight during high-pressure situations.

Moderation and Guidance

- **Active and Engaged Moderation:** Moderators or consultants play a critical role in guiding participants throughout the exercise. They should actively observe performance, provide feedback, and resolve uncertainties. For instance, if participants struggle with inter-agency coordination, moderators can offer clarifications or suggest strategies to improve efficiency.
- **Periodic Feedback and Updates:** Moderators should provide regular updates on the exercise's progress, highlighting areas for improvement and aligning participants' actions with the scenario's objectives. For example, if a communication gap is observed, moderators can address it immediately, ensuring that lessons are learned in real-time.
- **Ensuring Adherence to the Plan:** Moderators must verify that participants' actions comply with the contingency plan's provisions. This involves monitoring key aspects such as notification timelines, resource mobilization, and decision-making protocols. If deviations occur, moderators should identify the root causes and offer corrective measures.

Communication and Coordination

- **Streamlining Inter-Party Communication:** Effective communication is the backbone of any joint response. Exercises should establish clear protocols for message exchange, ensuring that all parties remain informed. For example, a structured communication sequence might involve initial notifications to regional bodies, updates on operational progress, and requests for specific resources.
- **Testing Real Systems and Contact Points:** To evaluate readiness, exercises should involve actual communication systems and national contact points listed in the SCP. This ensures that the tools and protocols used during real incidents are reliable and effective. Testing these systems under simulated pressure reveals gaps that might otherwise go unnoticed.
- **Verification of Message Receipt:** A robust system for verifying message delivery and acknowledgment is essential. For instance, during an exercise, participants should confirm receipt of critical messages such as requests for assistance or updates on spill trajectories. Verification can be achieved through standardized acknowledgment protocols or automated systems.
- **Structured Reporting Procedures:** Participants should follow structured reporting formats, such as Situation Reports (SitReps), to provide consistent updates. These reports might include details on spill containment progress, resource utilization, and emerging challenges. A standardized format ensures that all stakeholders can quickly understand the situation and coordinate their responses effectively.

National and Joint Exercise Preparation

- **Pre-Testing National Plans:** Before participating in joint exercises, each country should test its own NCP to ensure its readiness. This step allows national authorities to identify weaknesses and make improvements, aligning their plans with regional frameworks.
- **Role of Liaison Officers:** Liaison officers play a critical role in bridging national and regional efforts. They should be physically present in the area of operations to support the senior on-scene commander (SOSC) and facilitate communication with national resources. Their involvement ensures seamless coordination between on-ground efforts and strategic decision-making.
- **Integration of Real Contact Points:** Exercises should involve real contact points identified in country profiles to test their capability to respond promptly. For instance, a simulated request for equipment or personnel can reveal delays or inefficiencies in the communication chain.

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Documentation and Learning

- **Referencing Relevant Articles:** All exercise documentation should explicitly reference the contingency plan articles applicable to specific actions. For example, actions related to notification procedures might reference an article detailing communication protocols. This ensures that participants understand the legal and procedural framework governing their actions.
- **Leveraging Past Experiences:** Insights from previous exercises -including tabletop exercises- should inform scenario design, communication strategies, and resource allocation. For instance, lessons learned from past delays in equipment mobilization can guide improvements in resource pre-positioning and transportation logistics.
- **Continuous Improvement:** Post-exercise evaluations should focus on identifying areas for improvement, such as gaps in communication, delays in plan activation, or inadequate resource deployment. These evaluations should be comprehensive, involving feedback from all participants and stakeholders.

Continuous Improvement and Future Recommendations

- **Centralized Information Access:** Establish a dedicated platform for sharing contingency plans, contact details, and exercise materials. This ensures that all participants have access to up-to-date information, facilitating better preparation and coordination.
- **Future Exercise Types:** Collaborate with stakeholders to design diverse exercise types, such as full-scale drills, tabletop simulations, and communication-only exercises. Each type serves a specific purpose, whether testing operational readiness, strategic planning, or inter-agency coordination.
- **Efficient Moderation:** Future exercises should prioritize effective moderation. Moderators should be trained to manage complex scenarios, ensure adherence to plans, and provide constructive feedback. Their role is pivotal in maintaining the exercise's focus and achieving its objectives.
- **Integration of Emerging Technologies:** Utilize advanced technologies such as satellite imagery, spill trajectory modeling, and real-time communication platforms to enhance the exercise's realism. These tools provide valuable insights and improve decision-making capabilities.

Conclusions

1. Joint spill response exercises are essential for testing and improving regional collaboration, communication, and resource management.
2. A well-structured exercise should integrate realistic scenarios, dynamic challenges, and comprehensive testing of contingency plans.

3. Insights from exercises should inform updates to plans, protocols, and training programs, ensuring continuous improvement in preparedness and response capabilities.
4. Collaboration between regional organizations and stakeholders is vital for designing effective exercises and building long-term resilience.

This detailed and analytical version of the guidelines ensures a robust framework for planning, executing, and learning from joint spill response exercises, addressing all critical aspects of regional preparedness and collaboration.

PART II

1 CHAPTER ONE: FRAMEWORK

Background

In accordance with Article 17 of the Protocol concerning Co-operation in Preventing Pollution from Ships and, in Cases of Emergency, Combating Pollution of the Mediterranean Sea (2002 prevention and Emergency Protocol), Cyprus, Grece and Israel, agreed to establish a Sub-regional Contingency Plan (SCP). They requested the support of the Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC) to assist in the development and implementation of this SCP.

2 CHAPTER TWO: POLICY AND COMMAND STRUCTURE

Introduction

Once a Joint Spill Response Exercise (JSRE) is agreed upon, including the type context the objective and expected results the preparation and execution require the following:

.1 The establishment of a dedicated Committee responsible for coordinating the planning and organization of the exercise. In general, these are the National Operational Authorities (NOA) as defined in the Sub-regional Contingency Plan (SCP);

.2 The legal framework for the exercise is the SCP, and the National Contingency Plan (NCP) of the lead or hosting country and other participating members of the SCP; and

3. All contact points and their details will be those provided in the NCPs/SCP and updated as appropriate.

For the execution/operation, there should be agreement upon:

- The Joint Emergency Response Centre, the Emergency Response Centre,
- The lead Party and the Supreme On-Scene Commander (SOSC); the other participating Parties Liaison Officer and the National On-Scene Commander (NOSC,) and
- Other stockholders are to be identified, in accordance with the type, context, objective and expected results of the JSRE

2.1 Command and Control Structure

The basic aspects of this process include:

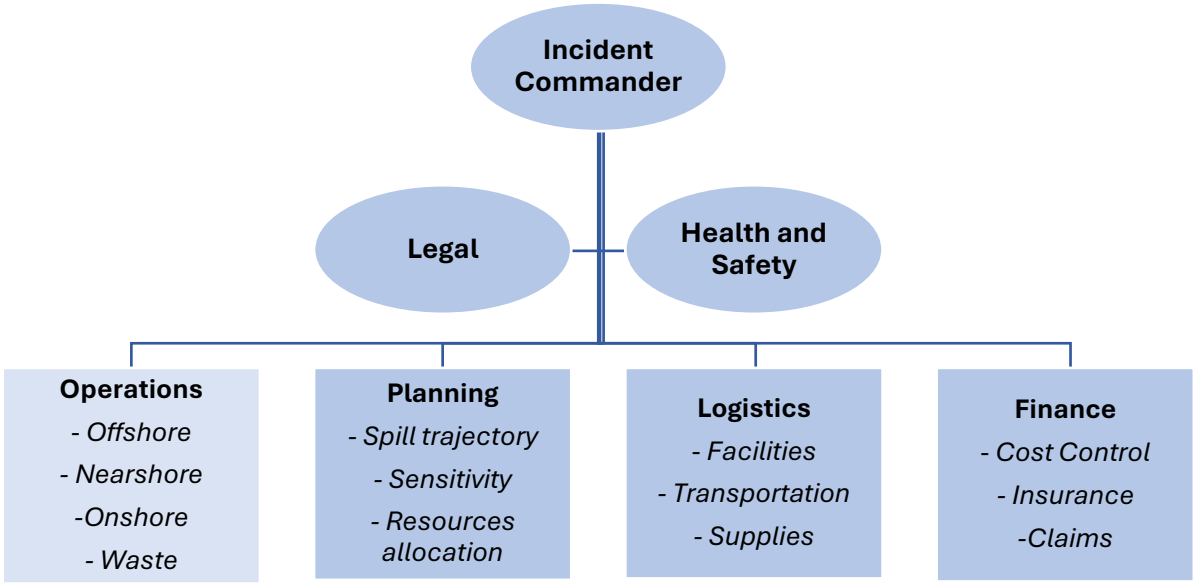
- **Unified Command Structure**: The response to an oil spill typically begins with the establishment of a Unified Command (UC) structure. This structure involves representatives from various agencies and organizations, such as the Coast Guard, Environmental Protection Stakeholders, State and local government agencies, and the responsible party (usually the company or entity responsible for the spill).
- **Incident Command System (ICS):** Within the Unified Command, an Incident Command System (ICS) is often utilized. ICS is a standardized approach to incident management that provides a hierarchy of command, with designated roles such as Incident Commander,

Operations Chief, Planning Chief, Logistics Chief, and Finance/Administration Chief. This system helps ensure clear lines of authority and responsibilities.

A typical ICS structure can be adopted to address unified command and coordination as shown in the below picture. Roles need to be defined and tested during the Table-Top exercises before the actual exercise will take place.

- **Coordinated Response Teams**: Specialized response teams, including oil spill response teams, environmental scientists, and hazardous materials experts, are coordinated under the ICS structure. These teams work together to assess the situation, plan containment and cleanup strategies, and implement those strategies in a safe and efficient manner. Cooperation of all involved stakeholders need to take into consideration the Local, National and Regional Contingency Plans.
- **Resource Coordination:** Cooperation involves the sharing of resources, including personnel, equipment, and supplies, among different agencies and organizations involved in the response effort. This ensures that there is an adequate response capacity to deal with the spill effectively. Resources need to be mobilised on the basis of the oil spill monitoring and assessment, along with a Net Environmental Benefit Analysis (NEBA) analysis.
- **Information Sharing:** Effective communication and information sharing are critical. All parties involved must share real-time data on the spill's location, size, and potential impacts. This includes sharing information with the public and the media to keep them informed about the situation and safety measures.
- **Environmental Assessment:** Scientists and environmental experts play a crucial role in assessing the impact of the oil spill on the ecosystem. This information is used to guide response efforts, prioritize areas for cleanup, and determine the appropriate use of chemical dispersants or other mitigation measures.
- **Legal and Regulatory Compliance:** Compliance with applicable laws and regulations is essential. The responsible party must adhere to legal requirements regarding reporting, containment, cleanup, and financial responsibility for the spill.
- **Community Involvement:** Local communities often play a role in oil spill response, as they may be directly affected by the spill. Cooperation with community leaders and residents is important for addressing their concerns, providing assistance, and minimizing the social and economic impacts of the spill.

The authorities need to set-up a Command Centre for the Coordination of Search & Rescue and include the following Departments as per a typical ICS structure:



2.2 National and Sub-regional Command Coordination

Given the sub-regional scope of the oil spill response plan, coordination between national authorities and sub-regional partners is critical. This coordination is facilitated through the SCP (Sub-regional Contingency Plan), ensuring seamless integration of resources and personnel from the affected countries. During an incident, the Incident Commanders from all participating countries coordinate their efforts through a unified command structure, supported by REMPEC and other regional entities.

2.2.1 Activation of the Sub-regional Contingency Plan (SCP)

The SCP is activated in cases of significant oil spills that require cross-border cooperation. The decision to activate the SCP is typically made by the Incident Commander in consultation with national authorities and REMPEC. Once activated, the SCP outlines the protocols for requesting and deploying resources from neighboring countries and regional organizations. The steps involved in activation include:

- **Notification**: All relevant parties, including REMPEC, EMSA, and neighboring countries, are notified of the incident.
- **Resource Mobilization**: Based on the severity of the spill, resources from national and sub-regional stockpiles are mobilized.
- **Unified Command**: A unified command structure is established, involving Incident Commanders from the affected countries.

2.2.2 Regional and Bilateral Agreements

The response plan relies heavily on regional and bilateral agreements to provide additional resources and expertise during a major spill incident. These agreements outline mutual assistance protocols, including the sharing of equipment, personnel, and technical expertise. Key agreements include:

- **Multilateral Agreement on Sub-regional Contingency Planning**: The agreement facilitates coordinated response efforts between the three nations.
- **REMPEC's Mediterranean Assistance Unit (MAU)**: Provides expert personnel and response tools to support national efforts.
- **European Maritime Safety Agency (EMSA)**: Offers additional resources, including specialized vessels and equipment, to support response operations.

3 CHAPTER THREE: RISK ASSESSMENT AND SPILL SCENARIOS

3.1 Oil Spill Scenarios: Potential Sources of Oil Spills

Understanding the potential sources of oil spills is essential for risk assessment and planning effective response strategies. Oil spills can originate from various activities, including:

- **Maritime Transportation**: Ship collisions, groundings, or equipment failure can result in large-scale spills. This is a significant risk given the heavy maritime traffic in the Mediterranean Sea.
- **Offshore Oil and Gas Platforms**: Accidents during exploration, drilling, or production phases can cause spills.
- **Pipeline Leaks**: Pipelines transporting oil under the sea or onshore can rupture, causing long-term and widespread spills.
- **Ports and Terminals**: Spills can occur during loading, unloading, or refueling operations at oil terminals and port facilities.
- **Oil Refineries**: Spills can also occur at storage facilities or during refinery operations.

3.2 Likelihood

Likelihood refers to the probability that an oil spill incident will occur. It is assessed based on historical data, operational conditions, and statistical analysis, and can be expressed in qualitative or quantitative terms.

Factors influencing likelihood include:

3.2.1 Historical Data

The region's historical spill data provides key insights into the likelihood of future spills. Incidents in the Mediterranean have varied in scale, with some involving catastrophic releases of oil, while others involve operational spills that are quickly contained. By reviewing past incidents, planners can assess the frequency of spills and identify common causes.

3.2.2 Maritime Traffic and Offshore Operations

The high volume of maritime traffic, including oil tankers, cruise ships, and cargo vessels, significantly increases the likelihood of a spill. Additionally, offshore exploration and production activities add to the risk, particularly in regions where oil reserves are being actively exploited.

3.2.3 Environmental and Operational Conditions

Environmental conditions such as weather, sea state, and currents can increase the likelihood of a spill or its severity. Human error, equipment failure, and inadequate maintenance or safety measures further contribute to spill risks.

3.2.4 Risk Assessment Methodology

The likelihood of an oil spill is often determined using a combination of qualitative methods (expert judgment, scenario planning) and quantitative approaches (probability modeling). The aim is to develop a comprehensive risk profile that informs contingency planning and resource allocation.

3.3 Release Volume and Discharge Rate: Oil Types and Spill Behavior

The volume of oil released during a spill and its rate of discharge significantly influence the environmental and socio-economic impacts. Equally important is the type of oil involved, as different types of oil exhibit distinct behaviors once released into the marine environment.
Oil spill scenarios can be categorized based on the following oil types:

3.3.1 Group 1: Non-Persistent Light Oils (Gasoline, Condensate)

- **Behavior**: Highly volatile, evaporating within 1-2 days. These oils leave no residue after evaporation but may produce toxic fumes.
- **Environmental Impact**: Short-term, localized impacts on water quality and marine life, particularly in the water column.
- **Cleanup**: Cleanup is dangerous due to high flammability and the presence of toxic compounds. In most cases, the oil evaporates before significant recovery efforts are needed.

3.3.2 Group 2: Persistent Light Oils (Diesel, Light Crudes)

- **Behavior**: Moderately volatile, leaving behind a residue (up to one-third of the spill volume).
- **Environmental Impact**: Can oil intertidal resources, posing long-term contamination risks. Toxic effects on aquatic life are moderate but can still be severe for certain species.
- **Cleanup**: Cleanup efforts can be effective if conducted promptly, though oiling of shorelines may result in longer-term recovery operations.

3.3.3 Group 3: Medium Oils (Most Crude Oils, IFO 180)

- **Behavior**: Approximately one-third of the oil evaporates within 24 hours. Oil contamination of shorelines and intertidal zones is significant and long-term.
- **Environmental Impact**: Severe impacts on marine and coastal ecosystems, particularly waterfowl and mammals.
- **Cleanup**: Prompt cleanup is essential, as delays may result in long-term contamination and more challenging recovery efforts.

3.3.4 Group 4: Heavy Oils (Heavy Crude Oils, Bunker C)

- **Behavior**: Little to no evaporation or dissolution. Heavy contamination of intertidal and subtidal areas is likely.
- **Environmental Impact**: Severe impacts on marine life, especially waterfowl and fur-bearing mammals. Contamination of sediments can persist for years, leading to long-term ecological damage.
- **Cleanup**: Shoreline cleanup is difficult and time-consuming under all conditions. Mechanical recovery is often necessary.

3.3.5 Group 5: Sinking Oils (Slurry Oils, Residual Oils)

- **Behavior**: These oils sink in water, usually before reaching the shoreline, but can cause severe contamination of seabed ecosystems.
- **Environmental Impact**: Minimal shoreline contamination, but significant impacts on benthic organisms and ecosystems, such as mussels and other sediment-dwelling species.
- **Cleanup**: Requires specialized dredging operations to remove oil from the seabed, making recovery more complex and resource-intensive.

3.4 Event Location and Prevailing Conditions

Oil spill risk assessment must consider the location of potential spills and the prevailing environmental conditions in those areas. Factors to assess include:

- **Water Depth**: Shallow waters are more vulnerable to shoreline contamination, whereas deeper waters may allow more time for response efforts.
- **Currents and Wind**: Strong currents and wind can spread the spill over a larger area, making containment more challenging.
- **Weather Patterns**: Temperature, storms, and seasonal weather variations affect oil behavior and recovery efforts. Cold waters, for instance, slow down oil evaporation and dispersion.

3.5 Environmental Sensitivity and Impact Assessment

To ensure an effective response to oil spills, it is necessary to evaluate the sensitivity of the environment, including:

- **Shoreline Type and Sensitivity**: Different shorelines respond differently to oil spills. Sandy beaches may absorb oil but are easier to clean, while rocky shorelines can trap oil in crevices, making cleanup more difficult.
- **Sensitive Ecosystems and Species**: Identify sensitive ecosystems, such as coral reefs, wetlands, and breeding grounds, and species at risk, including fish, birds, and marine mammals.

3.5.1 Sensitivity Mapping

Sensitivity maps are valuable tools for planning oil spill responses. These maps identify environmentally and economically sensitive areas that should be prioritized for protection in the event of a spill. The maps include information on:

- Key habitats and species.
- Socio-economic resources.
- Potential logistical and operational constraints in response efforts.

3.6 Strategic Planning Based on Scenarios

Once potential oil spill scenarios, their likelihood, and associated risks are identified, strategic response plans can be developed. This involves:

- **Scenario Development**: Defining possible incident scenarios, including the type and volume of oil spilled, location, and environmental conditions.
- **Sensitivity-Based Response Prioritization**: Determining which areas require immediate protection and the resources needed to achieve that.
- **Logistical Planning**: Ensuring that resources such as containment booms, dispersants, and skimmers are pre-positioned in areas of high risk.
- **Resource Mobilization**: Developing protocols for the timely mobilization of national and sub-regional resources based on the severity and type of spill.

4 CHAPTER FOUR: RESPONSE STRATEGIES

4.1 Overview

Effective response strategies for oil spills aim to minimize environmental, socio-economic, and public health impacts. Response strategies are selected based on the characteristics of the spill, environmental conditions, and the resources available. The decision-making process in choosing a strategy is guided by the principles of **Net Environmental Benefit Analysis (NEBA)**, ensuring that the chosen response provides the greatest benefit with the least environmental harm.

The key response strategies discussed in this chapter include:

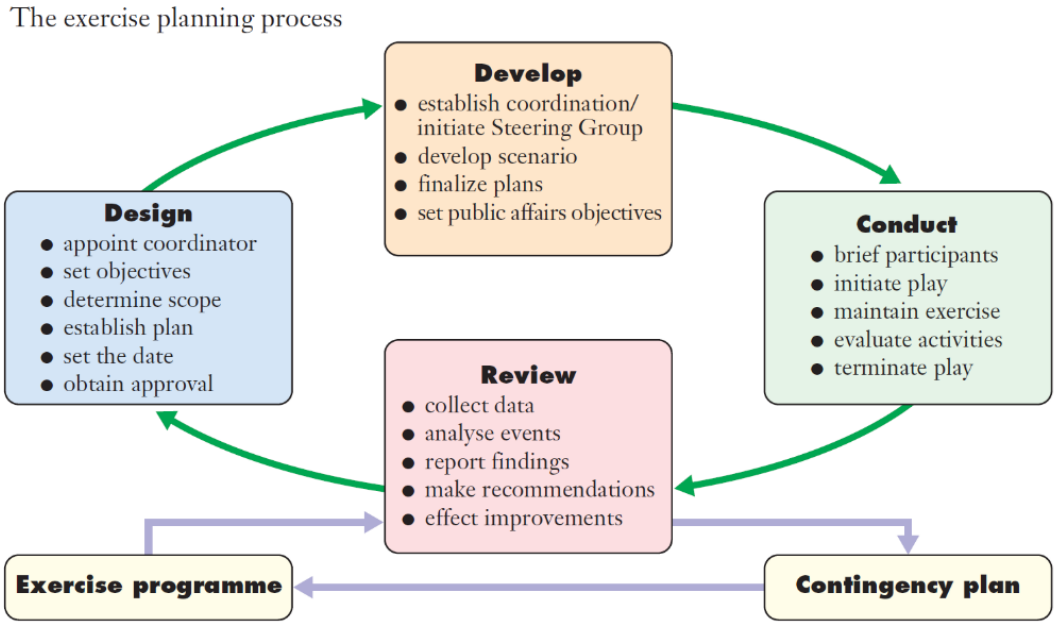
- Containment and Recovery
- Use of Dispersants
- Shoreline Clean-up
- Wildlife Protection
- Waste Management

Each strategy can be implemented independently or in combination, depending on the severity of the spill, location, and prevailing environmental conditions.

4.2 The basic elements of oil spill response exercise and response

Based on relevant documentation and international experience, the key stages in planning an oil spill response exercise are as follows:

- Design
- Develop (including media and society update)
- Conduct
- Review and update Contingency Plan



Ref: *IMO-IPIECA / Guide to oil spill exercise planning, page (9)*

Design: The design phase sets the objectives and scope and sets out the timetable necessary for completion.

Develop: The development phase describes those steps that are taken to create the exercise and prepare and organize fully for exercise activities. This phase must take into account the public affairs/media aspects of any exercise.

Conduct: The actual conduct of the exercise activity consists of initiating and maintaining the exercise by simulating, monitoring, controlling and facilitating activities to ensure that the exercise remains within the design parameters. It also involves documentation of the participants' activities and termination of the exercise.

Review: The review phase consists of collecting and analysing data, documenting findings and recommendations for improvement, and ensuring information is fed back to management. As the contingency plan is revised and updated, the exercise programme is similarly adjusted to take into account the lessons learned from prior exercises.

A similar approach has been adopted by EU- Union Civil Protection Mechanism (UCPM) and is demonstrated on the following picture.

Ref: *EU-UCPM / Technical Guide for UCPM Full-scale exercises, page (12)*

4.3 Response Policy

The response policy for oil spills within the national and sub-regional framework prioritizes containment and recovery at sea, while manual and mechanical methods are emphasized for shoreline clean-up operations. This policy is grounded in principles that seek to minimize environmental, economic, and public health impacts.

4.3.1 Containment and Recovery at Sea

The preferred response method for oil spills at sea is the containment of the oil to prevent further spread and facilitate recovery operations. The use of booms, skimmers, and other containment equipment ensures that the oil spill is confined to a specific area, making it easier to remove from the water. Key aspects of this approach include:

- **Boom Deployment**: Surrounding the spill with containment booms to prevent the oil from spreading.
- **Skimming Operations**: Using skimmers to recover oil from the water surface, reducing the environmental impact on marine life.
- **Recovery and Disposal**: Recovered oil is either stored temporarily on-site or transported to designated disposal facilities. Temporary and final disposal sites must be identified in advance to handle oily debris and recovered oil.

4.3.2 Use of Dispersants

The use of chemical dispersants is regulated and prohibited in certain areas:

- Dispersants are **prohibited** in waters less than 25 meters deep, areas with minimal water currents, and where water temperatures are below 10°C.
- In other situations, approval for dispersant use must be obtained from the relevant Ministry. This decision is made based on environmental conditions, oil type, and potential impacts, with emphasis on the Net Environmental Benefit Analysis (NEBA).

4.3.3 Shoreline Response

For shoreline oil spills, mechanical and manual recovery methods are prioritized. This involves deploying response teams to clean affected shorelines using specialized equipment, ensuring minimal disruption to local ecosystems.

4.3.4 Hazardous & Noxious Substances (HNS)

In incidents involving Hazardous and Noxious Substances (HNS), additional precautions and specialized response methods are employed to protect human health and the environment. These substances require handling by trained personnel equipped with the appropriate protective gear and response tools.

4.3.5 Wildlife Protection

A critical element of the response policy includes measures to protect wildlife. Response teams coordinate with wildlife experts to establish rescue and rehabilitation centers for affected animals. The protection of key habitats, such as bird nesting areas, is also prioritized.

4.4 Containment and Recovery

4.4.1 Containment

Containment is the first step in preventing spilled oil from spreading and causing further environmental damage. The goal is to confine the oil to a limited area, facilitating its recovery and preventing it from reaching sensitive shorelines or marine habitats.

.1 **Boom Deployment**

Booms are the primary tool for containing oil on the water's surface. There are different types of booms that can be deployed depending on the location of the spill and the sea conditions:

- **Floating Booms**: Used in calm or moderate sea conditions to encircle and trap oil.
- **Inflatable Booms**: Deployed quickly in emergency situations due to their ease of transportation and setup.
- **Permanent Booms**: Installed in harbors or sensitive areas as part of a preventative measure.

.2 Barrier Placement

In coastal areas, physical barriers can be deployed to prevent oil from reaching shorelines. This is especially useful for protecting sensitive habitats such as wetlands or mangroves.

4.4.2 Recovery

Once contained, the next priority is to recover the oil from the water's surface. Recovery techniques aim to remove as much oil as possible before it reaches sensitive areas.

- **Skimming Operations**

Skimmers are deployed to remove the oil from the water's surface. These devices can be used in conjunction with booms to recover oil. Different types of skimmers (e.g., weir, oleophilic, or suction skimmers) are chosen based on oil type and sea conditions.

- **Vacuum Trucks**

In coastal and shoreline areas, vacuum trucks are often used to recover large quantities of spilled oil from land and water. These trucks are especially useful for managing oil that has come ashore.

4.4.3 Storage and Disposal

Recovered oil and oily debris must be stored temporarily before being transported to final disposal sites. The storage process requires adequate infrastructure, such as portable tanks or containers, to handle the volumes of recovered material.

- **Temporary Storage**: Portable tanks, containers, and on-site storage facilities should be available in advance to handle collected oil.
- **Final Disposal**: The identification of licensed disposal facilities is essential for the environmentally safe disposal of recovered oil, oily debris, and contaminated materials.

4.5 Use of Dispersants[1]

Dispersants are chemicals that break down oil into smaller droplets, allowing natural degradation processes to occur more rapidly. Dispersants are used when containment and recovery are not viable or when minimizing shoreline impact is a priority.

4.5.1 Regulatory Considerations

The use of dispersants is subject to strict regulations. They are prohibited in shallow waters (less than 25 meters), in areas with minimal water movement, and in temperatures below 10°C. In other cases, their use must be authorized by the relevant environmental authorities, following a thorough assessment of potential environmental trade-offs.

4.5.2 Application Methods

Dispersants can be applied from the air or water, depending on the size and location of the spill:

- **Aerial Application**: Aircraft and helicopters are commonly used for large-scale dispersant application, covering vast areas of oil spread over the water surface.

[1] Guidelines for the use of dispersants for combating oil pollution at sea in the Mediterranean region (REMPEC, 2011) - Link

- **Vessel Application**: Dispersants can also be sprayed from vessels for smaller spills or where aerial deployment is not feasible.

4.5.3 Net Environmental Benefit Analysis (NEBA)

Before deploying dispersants, a NEBA is conducted to ensure that the benefits of the selected recovery outweigh the potential environmental risks. Factors such as the oil type, environmental sensitivity, and weather conditions are considered.

Having defined a range of oil spill scenarios, the socio-economic and environmental sensitivities in the area of study, consideration should be given to viable response strategies (e.g. monitoring and evaluation, containment and recovery, dispersants, shoreline clean-up and in-situ burning). These may have to be adaptable to different locations, under different conditions and at varying times of the year—and must be established in consultation with the relevant authorities and stakeholders.

The realities of the situation and the limitations of techniques and equipment must be well understood. When spilled, most oils dissipate quickly through the natural processes of evaporation, dissolution and dispersion. Depending on the temperature and sea conditions and the volume of the spill, light products will, under favourable conditions, virtually disappear from the sea surface within 1–2 days, light crudes within 2–5 days and medium crudes within 5–10 days. Heavy or waxy crudes and heavy oil products persist for much longer periods but are still naturally dissipated over time.

The associated safety and environmental risks must be carefully evaluated alongside operational limitations and associated approvals, as is the case for all response options.
In order to react quickly to an oil spill, response staff should be assigned specific roles and responsibilities, properly trained and regularly rehearsed and available for 24-hour call-out. For spills that cannot be contained at source and are likely to cause damage to property and the environment, a clean-up operation can make considerable demands on management and manpower resources over a period of weeks or months.

All the above indicate that the Response Management Team and relevant Authorities should take into consideration variables (oil type, location, prevailing weather etc) in order to take the decision for the most appropriate response strategy to be implemented on a case-by-case basis.

4.6 Shoreline Clean-up[2]

When oil reaches the shoreline, response teams shift focus to protecting coastal environments and removing oil from beaches, marshlands, and other sensitive areas. The approach depends on shoreline type and the extent of contamination.

4.6.1 Shoreline Types[3]

Different shoreline types require different response methods:

- **Sandy Beaches**: Oil is removed using manual tools such as shovels and rakes, as well as mechanical devices like beach cleaners.

[2] Mediterranean Oiled Shoreline Assessment Guidelines (2009) - Link
[3] Electronic version of the Oiled Shorelines Assessment Form (2024) - Link

- **Rocky Shorelines**: High-pressure water or manual scrubbing is used to dislodge oil trapped in crevices.
- **Marshlands and Mangroves**: Manual recovery techniques are preferred to avoid further damage to sensitive vegetation.

4.6.2 Manual vs. Mechanical Techniques

- **Manual Techniques**: Used when precision and care are required, especially in sensitive environments such as marshes, wetlands, or nesting areas.
- **Mechanical Techniques**: Applied in more robust environments where large volumes of oil need to be removed quickly. This includes the use of bulldozers, backhoes, and specialized shoreline-cleaning equipment.

4.6.3 Waste Handling

Collected oil, oily debris, and contaminated soil are transported to temporary storage areas and subsequently to disposal facilities. Proper segregation and treatment of waste ensure compliance with environmental regulations.

4.7 Wildlife Protection[4]

Wildlife protection is an integral part of the oil spill response strategy, particularly in areas with high biodiversity or endangered species. Response teams work closely with wildlife experts and NGOs to:

- **Establish Rehabilitation Centers**: Temporary facilities are set up to treat affected wildlife.
- **Minimize Disturbance**: Protect critical habitats, such as nesting areas, from additional harm caused by clean-up activities.
- **Coordinate Wildlife Rescue**: Specialized teams are deployed to rescue and rehabilitate affected species, including birds, marine mammals, and fish.

4.8 Waste Management[5]

Oil spill response generates significant quantities of waste, including recovered oil, oily debris, contaminated water, and personal protective equipment (PPE). Proper waste management is critical to avoid secondary contamination and ensure compliance with environmental regulations

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4.8.1 Waste Segregation

- **Oily Waste**: Includes recovered oil, debris, and contaminated materials.
- **Non-Hazardous Waste**: Includes materials that have come into contact with oil but are not considered hazardous.

4.8.2 Temporary Storage and Disposal

All waste must be stored in accordance with legal and environmental standards until it can be transported to a licensed disposal facility. Segregation of waste at the collection site ensures efficient disposal and minimizes environmental risks.

[4] Oiled Wildlife Response Manual (2013) - Link

[5] Mediterranean Oil Spill Waste Management Guidelines (REMPEC, 2011) - Link

4.9 Applied Scenario Action-Sequence

Type & Characteristics of pollutant: Crude oil, Mediterranean Urals – An Example

1. *Density: Mediterranean Urals crude oil typically has a density in the range of 28 to 34 degrees API (American Petroleum Institute). It is considered a medium-density crude oil.*
2. *Viscosity: The viscosity of Mediterranean Urals crude oil can vary but is generally moderate, making it less viscous than heavy crude oils but thicker than light crudes.*
3. *Chemical Composition: This type of crude oil contains a mix of hydrocarbons, including alkanes and aromatics. It has a relatively balanced composition compared to heavy crudes, making it less dense and easier to transport.*
4. *Toxicity: The toxicity of Mediterranean Urals crude oil is generally lower than that of heavy crudes. However, it can still contain substances that are harmful to marine life, and its toxicity depends on its specific chemical composition.*
5. *Volatility: Mediterranean Urals crude oil has moderate volatility, meaning it can release volatile components into the air when exposed. These components can contribute to air pollution and affect air quality.*
6. *Solubility: It has limited solubility in water, which means that some components can dissolve in water while others do not. This characteristic can influence the behavior of the oil when it comes into contact with seawater.*
7. *Emulsification: Mediterranean Urals crude oil can form emulsions when mixed with water. These emulsions can be challenging to break and may require specialized techniques for cleanup.*
8. *Appearance: It typically has a dark brown to black color and a thick, viscous appearance.*
9. *Weathering: Like all crude oils, Mediterranean Urals crude undergoes weathering processes when exposed to the environment. This includes evaporation, dispersion, and biodegradation, which can alter its characteristics over time.*

4.9.1 Initial Phase

I1: Incident

- At …… hrs, ……, the oil tanker "xxx" experiences a catastrophic explosion in cargo hold No.4 PS, causing extensive damage to the vessel, including a hull rupture.

I2: Immediate Response Activation

- The crew aboard oil tanker "xxx" initiates emergency response protocols immediately to contain the fire and mitigate further environmental damage.

I3: Initial Notification Receipt

- The explosion and the subsequent oil release to the marine environment is reported. POLREP is submitted.
- Threatened Member Authorities are alerted immediately to launch a coordinated operation.

I4: Search and Rescue Operation

- Maritime rescue teams are dispatched to the scene.
- Their tasks include evacuating surviving crew members and assessing the overall impact on human life.

I5: Fire Suppression

- Specialized firefighting vessels are deployed to combat the onboard fire. Fire has been extinguished by vessel's crew.
- Divers assess the possibility of subsea leaks and the structural integrity of the vessel during this time. An oil boom is deployed around the vessel.

4.9.2 Preliminary Actions

P1: Evaluation – Determination of size and severity

- The preliminary report is confirmed. An initial release of 1000 metric tons of crude oil, with an ongoing leakage rate of 20 metric tons per hour is observed.

P2: Oil Spill Spreading

- It is observed that the oil spill has begun to spread;
- The National Contingency Plan of is activated, and the Emergency Response Center (ERC) is set up. Threatened Member authorities assume leadership;
- REMPEC is alerted on the incident and the decision to activate the NCP

P3: Unified Command Structure:

- Threatened Member establishes a unified command structure, streamlining decision-making processes and ensuring consistency across all response efforts;
- Regular briefings and updates are conducted to maintain a shared understanding of the evolving situation.

P4: Joint Coordination Center Operations:

- The Joint Coordination Center becomes the nerve center, equipped with real-time GIS mapping, predictive modeling, and crisis simulation tools;
- Specialized teams, including environmental scientists, and oil spill response experts, convene for coordinated efforts;
- Continuous monitoring of the evolving situation allows for adaptive decision-making strategies

P5: Request for Regional Assistance

- A formal request for specific assistance is made to, European Union, Responder 1, REMPEC, through CESIS and Responder 2;
- A Situation Report (SITREP) is provided, detailing the current status of the incident.

P6: Sub-regional Marine Pollution Contingency Plan is activated

- EMSA, Responder 1, Responder 2, and REMPEC offer assistance, recognizing the severity of the situation;
- JRCC assumes the role of the Joint Emergency Response Centre (JERC);
- NoSCs of Responder 2 and Responder 1 take lead roles over the manpower and assets of their respective countries but operate under the Command of the SOsC;
- Additional resources, expertise, and manpower are mobilized to aid cleanup and containment efforts;
- Situation Reports (SITREP) are provided, detailing the current status of the incident at regular intervals.

P7: Resource Mobilization and Deployment Precision:

- Participating entities deploy a comprehensive array of assets, including oil spill response vessels and aerial surveillance;
- REMPEC & EMSA supplement with cutting-edge technologies, such as Remotely Piloted Aircraft Systems services and satellite-based spill tracking.

P8: Advanced Communication Infrastructure:

- A communication hub is established, integrating satellite communication and secure data sharing platforms;
- Encryption protocols ensure the confidentiality of sensitive information shared among participating entities;
- A common communication platform is established for sharing Big Data.

4.9.3 Active Response

A1: Aerial Surveyance

- Responder 1 dispatches an airplane to assist with the inspection and assess the trajectory of the spill. Three major oil patches are observed.

A2: Oil Spill Containment & Collection

- Responder 2 dispatches an oceanographic vessel, fully equipped with antipollution equipment, towards the Area…..as instructed by..
- Oil containment booms & skimmers are strategically placed to contain the spreading oil slick.

A3: Oil Spill Containment & Collection (B)

- EMSA mobilizes OSRV Alexandria, a vessel with a high capacity to collect and store the pollutant from the sea surface towards Area ….as instructed by….

A4: Maritime Traffic Management

- With the ongoing incident, it becomes crucial to manage maritime traffic in the affected area;
- Threatened Memer authorities coordinate with shipping companies to reroute vessels and minimize the risk of collisions and further incidents.

A5: Onsite Assessment and Dynamic Monitoring

- Specialized assessment teams employ advanced sensors, drones, and satellite imagery provided by EMSA, for a meticulous onsite evaluation;
- An advanced oil spill modeling and trajectory assessment is conducted using real-time data. Real-time monitoring enables adaptive strategies, addressing unforeseen challenges and dynamically adjusting response efforts;
- A NEBA (Net Environmental Benefit Analysis) is conducted to determine the initial response strategy.

A6: Shoreline Preventive Measures

- Fate, Cleanup, and Persistence (FCP) plan is activated along the Threatened Memer coastline to prepare for potential shoreline impact;

- Shoreline preventive measures are initiated according to pre-established Fate, Cleanup, and Persistence (FCP) plans and oil spill modeling;
- Local communities in immediate risk zones are informed, and precautionary evacuation measures are executed;
- One of the oil spill patches moves to fish farms and Threatened Memer deploys a protective boom around the farms.

A7: Health and Safety

- Health and safety assessment is conducted to ensure the well-being of response personnel;
- Adequate measures are taken to prevent any health issues related to exposure to hazardous materials. Air quality is being measured by Responder 2 experts.

A8: Salvage Operation

- A decision-making process begins to grant a port of refuge for the damaged tanker by the responsible national authorities.

4.9.4 Critical Actions & Ongoing Preventive & Response Actions

C1: Data Collection and Analysis

- A data collection and analysis team compiles information on the spill's impact on the environment, wildlife, and local communities;
- This data serves as a basis for future research and mitigation efforts.

C: Wildlife Protection

- As the environmental impact becomes more apparent, a specialized team is deployed to assess and protect wildlife in the affected area;
- Measures are taken to rescue and rehabilitate affected marine animals.

C2: Public Relations and Communication

- A dedicated public relations team starts managing communications regarding the incident;
- Regular updates are provided to the public, stakeholders, and the media to maintain transparency and manage public perception.

C3: Chemical Dispersants

- A license to apply dispersants has been granted by the relevant Authorities;
- The initiation of offshore response includes the allocation of operational areas for response vessels.

C4: Initiation of Onshore Response

- Onshore prevention and response units are mobilized to protect sensitive coastal areas;
- This includes the deployment of personnel and equipment to designated response zones.

C5: Reporting and Documentation

- A comprehensive reporting process is initiated to document all aspects of the oil spill response drill;
- Response teams, agencies, and participating entities are required to submit detailed reports outlining their actions, observations, and outcomes during the drill;
- Reports include information on resource utilization, response effectiveness, challenges faced, and any deviations from established procedures;
- Situational Reports (SITREPs) are compiled and disseminated to relevant stakeholders, including Threatened Memer Authorities, EMSA, REMPEC, Responder 2, Responder 1,

and international organizations;
- The health and safety of response personnel during the drill, including any incidents or injuries, are recorded;
- Financial aspects, such as cost breakdowns, funding sources, and expenditure, are documented;
- A timeline of key events and actions taken during the drill is compiled for reference;
- Photographic and video evidence, as well as GIS data, are collected to support the documentation process;
- A centralized database is established to store all drill-related reports and data for future reference, analysis, and review;
- The documentation process ensures transparency, accountability, and the availability of valuable information for post-drill analysis, evaluation, and planning.

C6: Resources Management
- A dedicated team is assigned to manage the allocation of resources efficiently;
- Resources include personnel, equipment, materials, and supplies needed for containment, cleanup, and response operations;
- Inventory control and resource tracking are crucial to ensure that response teams have access to the necessary tools and equipment;
- The management team works closely with logistics and procurement to ensure a continuous and sufficient supply of resources to support ongoing response efforts.

C7: Waste Management
- proper waste management protocols are implemented to handle hazardous materials, contaminated materials, and waste generated during the response efforts;
- This includes the safe storage, transport, and disposal of waste materials in compliance with environmental regulations and guidelines;
- Recycling and disposal methods that minimize environmental impact are prioritized;
- M/V ALEXANDRIA is heading to port for discharging.

C8: Legal and Financial Coordination
- Dedicated legal and financial coordination teams convene to address critical aspects related to the oil spill response scenario, potential liability issues and financial support for response efforts.
- Documentation for insurance claims and compensation is initiated.

4.9.5 Final Phase

F1: Final Inspection and Finalization
- A final inspection is conducted by helicopter to assess the overall status of the response and containment efforts.
- The airplanes provide an aerial perspective to evaluate the extent of the oil spill, the effectiveness of containment measures, and any remaining visible impacts on the environment. Inspection to be performed by all parties.
- Observations from the final inspection help in determining the readiness for concluding response operations. Reports from air, sea, satellite, and radar.

- Any outstanding tasks or follow-up actions are identified and assigned to responsible parties for completion.
- After the final inspection and debriefing, a formal declaration is made to conclude the oil spill response operation, signifying the end of the drill scenario.
- The drill organizers, participating entities, and response teams gather to review the overall performance and outcomes of the drill.
- Lessons learned are documented and will be used to update and improve future oil spill response plans, strategies, and coordination efforts.

F2: Debriefing and Evaluation

- Following the primary response operations, a debriefing and evaluation session is scheduled between key stakeholders, including EMSA, Responder 1, Responder 2, and REMPEC.
- The session is held in a collaborative and constructive atmosphere to assess the overall response to the oil spill incident.
- Participants share their respective experiences, observations, and lessons learned from the drill, emphasizing both strengths and areas for improvement.
- Discussions focus on the effectiveness of coordination, resource allocation, communication, and response strategies among the participating entities.
- The evaluation considers the timeliness and adequacy of responses, the application of best practices, and the compliance with established protocols.
- Information on the deployment of personnel, equipment, and resources is reviewed to identify opportunities for streamlining and optimizing future response efforts.
- The evaluation also includes an assessment of the effectiveness of international collaboration and assistance provided by neighbouring countries and organizations.
- Recommendations for enhancements in preparedness, response plans, and coordination mechanisms are discussed and documented.
- The session serves as a valuable platform for strengthening partnerships and fostering continuous improvement in cross-border oil spill response capabilities.
- The outcomes of the debriefing and evaluation contribute to ongoing efforts to refine response strategies, enhance regional cooperation, and promote effective oil spill preparedness in the Mediterranean region.

Note:

A detailed scenario has been developed and attached in **Annex 2** (in progress) for the purposes of this Guidance Document designed to rigorously test and evaluate the readiness, competence, and collaborative capacity of EMSA, REMPEC, and SCP Members in managing a multifaceted maritime environmental crisis. The scenario serves as a resounding reminder of the paramount importance of preparedness, seamless collaboration, and the capacity for adaptive response as critical components of effective crisis management. Through the consistent refinement and update of response strategies, the participating entities reaffirm their commitment to safeguarding coastal environments and the communities reliant upon them.

5 CHAPTER FIVE: LOGISTICS

Efficient logistical management is critical to the successful execution of oil spill response operations. The ability to mobilize personnel and equipment quickly, manage associated costs, and ensure proper logistical arrangements for response exercises is essential to minimizing environmental and economic impacts.

5.1 Mobilization of Personnel and Equipment

5.1.1 Personnel Mobilization

The rapid deployment of well-trained personnel is paramount to an effective oil spill response. Key considerations for mobilizing response teams include:

- **Coordination**: Clear lines of communication between the command center, operational teams, and support personnel must be established to ensure seamless coordination. Pre-established call-out procedures for response staff, with 24/7 availability, should be in place.
- **Response Readiness**: All personnel involved in the response must be trained, certified, and available for immediate deployment. This includes field teams, wildlife specialists, logistics coordinators, and command staff.
- **Transport and Deployment**: Efficient transportation arrangements—both air and ground—are required to move personnel to the spill site promptly. Staging areas should be pre-designated to facilitate rapid deployment and management of on-the-ground operations.

5.1.2 Equipment Mobilization

The timely mobilization of equipment is as important as personnel deployment. Equipment readiness, transportation, and staging are crucial elements of an oil spill response:

- **Pre-positioning of Equipment**: Stockpiles of response equipment, including booms, skimmers, dispersants, and storage containers, should be strategically positioned in locations that offer easy access to high-risk areas. Equipment maintenance schedules must be strictly adhered to, ensuring readiness at all times.
- **Transport Logistics**: Heavy equipment, such as skimmers, portable storage tanks, and vacuum trucks, may require specialized transport arrangements, such as chartered airfreight or shipping services, to reach the incident site.
- **On-Site Setup**: Once on-site, equipment must be deployed according to pre-determined strategies, ensuring effective containment, recovery, and disposal operations.

5.2 Logistics Associated Expenses

Managing the expenses associated with oil spill response logistics requires robust financial oversight and accountability. Key areas of expenditure include:

- **Personnel Costs**: This encompasses wages, overtime, travel, and accommodations for response teams. Contracted personnel, consultants, and third-party service providers should be factored into the budget.
- **Equipment and Supply Costs**: The costs of mobilizing, transporting, and maintaining response equipment must be tracked closely. This includes leasing or purchasing additional equipment, if necessary, as well as the replenishment of consumable supplies, such as personal protective equipment (PPE) and fuel.
- **Transportation and Logistics Costs**: Expenses related to air, sea, and land transport for

personnel, equipment, and resources should be anticipated, along with the costs of maintaining staging areas, temporary facilities, and field operations centers.

- **Incidentals and Unforeseen Costs**: It is important to allocate funds for unexpected logistical challenges, such as adverse weather, damage to equipment, or sudden changes in response plans, which may require additional resources.

5.3 Venue, Accommodation, and Invitation to Spill Response Exercises

5.3.1 Venue Selection

Choosing an appropriate venue for oil spill response exercises is critical for ensuring realistic training and preparedness. Factors to consider when selecting a venue include:

- **Geographical Relevance**: The venue should reflect the types of coastal and marine environments likely to be affected by oil spills. It should provide logistical access for both sea and land-based response activities.
- **Access to Resources**: The site must have the necessary infrastructure to support the deployment of equipment, including adequate space for staging areas, vehicle access, and proximity to storage facilities for spill response tools and materials.
- **Environmental Considerations**: Exercise venues must be carefully selected to avoid sensitive ecosystems. If the venue is in proximity to vulnerable habitats, contingency measures must be in place to prevent accidental disturbances.

5.3.2 Accommodation for Personnel

Accommodation logistics play a crucial role in large-scale oil spill response exercises:

- **Proximity to the Site**: Personnel accommodations should be located close to the exercise venue to minimize transport time and ensure rapid deployment to the field.
- **Capacity and Facilities**: The chosen accommodation must have the capacity to house all response personnel, including command staff, field teams, and support personnel. Facilities for meetings, briefings, and meal services should be available to maintain operational readiness.
- **Health and Safety**: Accommodations must comply with health and safety regulations, including provisions for emergency evacuations, first-aid services, and hygiene standards.

5.3.3 Invitations and Participation

Inviting relevant stakeholders to participate in spill response exercises ensures broader engagement and cooperation:

- **Key Participants**: Invitations should be extended to government agencies, private sector stakeholders, regional partners, international organizations and NGOs. These stakeholders play an essential role in evaluating the effectiveness of the response and providing expertise in areas such as wildlife protection, environmental management, and public communications.
- **Observers and Media**: Allowing external observers, including representatives from the media, to attend the exercise demonstrates transparency and accountability. Observers can offer valuable insights and help promote public awareness of oil spill response capabilities.
- **Coordination of Invitations**: A clear protocol for issuing invitations should be in place, with invitations sent well in advance. This ensures that all participants can prepare accordingly and engage meaningfully in the exercise.

6 CHAPTER SIX: COMMUNICATIONS

Effective communication is essential to the success of oil spill response operations. Coordinating actions between multiple stakeholders, providing timely updates to the public, and managing media relations are critical to ensuring transparency and efficiency. This chapter outlines the communication frameworks and strategies employed during oil spill response activities.

6.1 Internal Communications

6.1.1 Coordination Among Response Teams

A well-defined internal communication strategy ensures that all response personnel are informed, aligned, and able to execute their responsibilities efficiently. The **Incident Command System (ICS)** provides the framework for internal communication, ensuring that:

- **Command and Control**: The Incident Commander (IC) maintains clear, direct lines of communication with all operational teams, including planning, logistics, operations, and finance.
- **Team Communication**: Field personnel and operations teams are provided with reliable communication tools, such as two-way radios, satellite phones, and digital platforms, to maintain constant contact during response activities.
- **Situation Reports (SitReps)**: Regular SitReps are distributed to all teams to provide updates on the status of the spill, response efforts, and changing conditions. These reports ensure that teams operate with current and accurate information.

6.1.2 Communication Tools and Technology

The use of modern communication tools is essential for maintaining real-time coordination:

- **Incident Management Software**: Digital platforms designed for emergency response management allow for centralized reporting, task tracking, and resource allocation.
- **Encrypted Channels**: Secure communication channels are necessary for sharing sensitive information between stakeholders, including governmental and private-sector partners.

6.2 External Communications

External communication is focused on providing timely and accurate information to the public, media, and stakeholders. It ensures transparency, builds public trust, and manages expectations during an oil spill response.

6.2.1 Public Information Officer (PIO)

The **Public Information Officer (PIO)** plays a key role in managing all external communication:

- **Media Relations**: The PIO coordinates press releases, public announcements, and media briefings. Proactive engagement with the media is essential to managing the narrative and preventing misinformation.
- **Stakeholder Engagement**: The PIO ensures that all relevant stakeholders—local authorities, industry partners, NGOs, and international organizations—receive accurate and timely information on response efforts.

6.2.2 Media and Public Communication

Providing regular updates to the public and media is critical for ensuring transparency:

- **Press Conferences**: Senior officials, including the Incident Commander, will hold regular press conferences to update the public on the status of the response and any developments.
- **Social media and Websites**: Social media platforms and official websites are leveraged to share real-time updates with the public. These platforms allow for fast dissemination of information and help address public inquiries.
- **Public Safety Notices**: Public safety advisories are issued to alert communities of any potential health risks, such as air or water contamination, and to provide guidance on safety measures.

6.2.3 Communication with International and Regional Partners

Oil spills, especially in marine environments, often require cross-border collaboration. Effective communication with international and regional partners ensures a coordinated response:

- **REMPEC and EMSA**: Continuous updates are provided to regional organizations, such as the Regional Marine Pollution Emergency Response Centre (REMPEC) and the European Maritime Safety Agency (EMSA), ensuring their support and resources are aligned with national efforts.
- **International Observers**: In large-scale spill events, international observers and partners may be involved in monitoring the response, and their communication needs must be integrated into the overall strategy.

6.2.4 Stakeholder Communication and Feedback

Maintaining open lines of communication with key stakeholders is essential for ensuring their engagement in the response process:

- **Stakeholder Briefings**: Regular briefings are held with industry representatives, environmental organizations, and local governments to provide updates and address concerns.
- **Community Outreach**: Local communities must be informed of ongoing response efforts and any actions they may need to take to protect themselves or support the response.

6.3 Crisis Communication Management

Managing communication in a crisis requires clear protocols and a strategic approach to ensure information is disseminated quickly and accurately, avoiding confusion or panic. Key principles for crisis communication include:

- **Preparedness**: Communication plans should be established well in advance of any spill, with predefined roles, contact lists, and message templates ready for immediate use.
- **Consistency**: All communication from response personnel must be consistent, ensuring there is no conflicting information. This is especially important when dealing with media inquiries.
- **Timeliness**: Information must be shared as soon as it becomes available. Delayed communication can erode public trust and hinder response efforts.

7 CHAPTER SEVEN: CHALLENGES, LESSONS LEARNED, AND POINTS OF CONSIDERATION

7.1 Challenges in Oil Spill Response

Oil spill response operations are complex and often face a range of challenges, including environmental, logistical, technical, and organizational difficulties. These challenges can delay or hinder the effectiveness of response efforts, leading to greater environmental and socio-economic impacts. Understanding and addressing these challenges is critical to improving future response capabilities.

7.1.1 Environmental Challenges

Environmental factors, such as weather conditions, currents, and the type of coastline, significantly impact oil spill response strategies.

- **Weather Conditions**: High winds, rough seas, and storms can limit the effectiveness of containment booms and make skimming operations more difficult. Cold temperatures can slow down the evaporation of oil, complicating the natural dispersion process.
- **Tidal and Current Variability**: Inconsistent tides and strong currents can quickly disperse spilled oil over wide areas, making it challenging to contain the oil and increasing the risk of shoreline contamination.
- **Remote and Sensitive Areas**: Spills in remote areas or near environmentally sensitive ecosystems, such as wetlands or coral reefs, pose logistical and ecological challenges. Access to these areas is often difficult, and the potential for long-term ecological damage is high.

7.1.2 Logistical Challenges

Logistical challenges can significantly delay response efforts, particularly in large-scale incidents.

- **Resource Mobilization**: The timely mobilization of response personnel, equipment, and materials is often hindered by a lack of pre-positioned resources in proximity to the spill site. Transporting heavy equipment and large quantities of materials, such as booms and skimmers, can take time and requires specialized transportation arrangements.
- **Limited Access to Affected Areas**: In remote or coastal areas, physical access to the spill site is often restricted by terrain, weather, or infrastructure limitations, complicating the deployment of response teams and equipment.

7.1.3 Technical and Operational Challenges

Technical challenges often arise when dealing with complex spill scenarios, particularly when managing large-scale or unconventional spills.

- **Oil Characteristics**: The type and behavior of spilled oil can pose significant technical challenges. Heavy oils, for example, are difficult to recover and may sink, complicating containment and recovery efforts. Similarly, oils with high toxicity or those that emulsify present additional hazards for response teams.
- **Inadequate Response Equipment**: A lack of specialized equipment, or equipment failure, can undermine response efforts, especially in large or prolonged spills. This is exacerbated when equipment is not properly maintained or when there are insufficient stockpiles of consumable resources (e.g., dispersants, absorbents).

7.1.4 Organizational and Coordination Challenges

Coordinating a large-scale, multi-agency response presents significant organizational challenges.

- **Fragmented Communication**: Miscommunication or delayed communication between agencies, response teams, and stakeholders can lead to inefficient resource allocation and delays in decision-making.
- **Jurisdictional Overlaps**: Oil spills that affect multiple jurisdictions, such as cross-border spills, require close coordination between different national agencies, regional organizations, and international bodies. Discrepancies in response protocols and legal frameworks can hinder effective cooperation.

7.2 Lessons Learned

7.2.1 Importance of Preparedness and Pre-Positioned Resources

Previous spill incidents have highlighted the critical need for pre-positioned response resources in strategic locations, especially in areas with a high risk of spills. Preparedness plans should include stockpiles of essential equipment, such as containment booms, skimmers, dispersants, and protective gear, ensuring rapid deployment when an incident occurs.

7.2.2 Enhancing Communication and Coordination

Efficient communication and coordination are vital to any oil spill response. Lessons learned from past spills and exercises emphasize the need for a clear command structure, established through the Incident Command System (ICS), and pre-defined communication protocols to ensure all stakeholders are informed and aligned during a response.

7.2.3 Value of Continuous Training and Exercises

Regular training programs and simulation exercises are crucial for maintaining response readiness. Lessons from past exercises demonstrate that response teams with well-practiced skills and familiarity with equipment and procedures are better equipped to manage real-life spill events. Ongoing training also allows for the identification of potential gaps in readiness and response capacity.

7.2.4 Multi-Agency and International Cooperation

Past spill responses and exercises have shown that multi-agency and international cooperation are essential for large-scale spills, particularly when a spill crosses national boundaries. Sharing resources, expertise, and information among neighboring countries or regions allows for a faster, more efficient response. Bilateral and regional agreements should be regularly updated to reflect current capacities and to ensure seamless cooperation during emergencies.

7.2.5 Importance of Community Engagement

Engaging local communities early in the response process has proven beneficial in several past incidents. Communities can provide critical local knowledge, assist with response efforts, and help monitor environmental impacts. Ensuring that the public is informed and involved in response activities also helps to build trust and manage expectations.

7.3 Points of Consideration for Future Responses

7.3.1 Developing Adaptive Response Strategies

Oil spill response strategies must be adaptable to varying environmental, logistical, and operational

conditions. Planners should prepare for multiple response scenarios, ensuring that strategies can be adjusted quickly based on real-time data and situational assessments. Flexibility is essential for addressing the unique challenges posed by different oil types, spill locations, and environmental conditions.

7.3.2 Strengthening Environmental Sensitivity Mapping

Accurate and up-to-date environmental sensitivity maps are vital tools for oil spill response planning. These maps help responders identify and prioritize areas for protection, such as sensitive habitats and key socio-economic resources. Future efforts should focus on refining and expanding these maps, incorporating data on climate change impacts and evolving environmental conditions.

7.3.3 Expanding Stakeholder Collaboration

Collaboration with a wide range of stakeholders—government agencies, industry, NGOs, and local communities—enhances the overall effectiveness of spill response efforts. Stakeholders can offer diverse expertise, resources, and perspectives, helping to improve decision-making and ensure a comprehensive response. Engaging stakeholders in pre-incident planning and response exercises fosters collaboration and builds stronger relationships for future responses.

7.3.4 Leveraging Technology and Innovation

Emerging technologies offer new possibilities for enhancing oil spill response capabilities. Advances in satellite imagery, unmanned aerial vehicles (UAVs), and real-time spill tracking can improve response efficiency and accuracy. Continued investment in research and innovation, particularly in oil spill detection and containment technologies, will strengthen the ability to respond to future incidents more effectively.

7.3.5 Evaluating and Updating Contingency Plans

Regular review and updating of oil spill contingency plans are essential for maintaining preparedness. These updates should reflect lessons learned from recent spill incidents, technological advancements, and changes in regulations. Contingency plans must also be flexible enough to accommodate new response strategies and evolving risks.

8 CHAPTER 8: DISSEMINATION STRATEGY

The dissemination strategy for the oil spill response guidance document ensures that all relevant stakeholders, including national authorities, regional and international partners, and private sector entities, have access to the information required to enhance their preparedness and response capabilities. A well-planned dissemination strategy promotes awareness, fosters cooperation, and ensures that best practices are implemented across all levels of oil spill response.

Developing an effective dissemination strategy following an oil spill response exercise is crucial for ensuring that key information reaches the relevant stakeholders. Here are some suggestions for a comprehensive dissemination strategy:

i. Stakeholder Analysis:

Identify key stakeholders, including government agencies, local communities, environmental organizations, media outlets, and industry partners. Tailor messages to address the specific concerns and interests of each stakeholder group.

ii. Multichannel Approach:

Utilize a mix of communication channels, including press releases, social media, websites, email newsletters, and traditional media (TV, radio, newspapers). Leverage both online and offline platforms to reach a diverse audience.

iii. Press Releases:

Issue well-crafted press releases detailing the objectives, outcomes, and lessons learned from the oil spill response exercise. Include key findings, improvements, and any new protocols or procedures implemented.

iv. Social Media Campaigns:

Engage with the public through social media platforms to disseminate information quickly. Use of visuals such as infographics, videos, and images to enhance the understanding of the response exercise.

v. Community Meetings and Workshops:

Organize town hall meetings or workshops in affected communities to share information directly. Allow for Q&A sessions to address concerns and gather feedback.

vi. Webinars and Online Platforms:

Conduct webinars to present findings and allow for remote participation and engagement. Utilisation of online forums or platforms where stakeholders can access detailed reports and ask questions.

vii. Collaborate with Local Media:

Work with local media outlets to publish articles, interviews, or features on the response exercise. Offer exclusive interviews to journalists covering environmental issues. Partnerships with NGOs and Community Groups. Collaborate with non-governmental organizations (NGOs) and community groups to amplify your message. Leverage their networks to reach a broader audience.

viii. Regular Updates:

Provide regular updates to maintain transparency and keep stakeholders informed of ongoing efforts post-exercise. Highlight any ongoing monitoring or remediation activities.

ix. Feedback Mechanism:

Establish a feedback mechanism to gather input and concerns from stakeholders. Use the feedback to make improvements and demonstrate responsiveness.

x. Training and Educational Programs:

Develop and conduct training programs for local communities on oil spill preparedness and response. Share educational materials to increase awareness about environmental protection.

xi. Documentation and Reports:

Publish comprehensive documentation and reports on the exercise, ensuring accessibility for interested parties. Distribute physical copies to key stakeholders and make digital versions available online.

By implementing a diverse and targeted dissemination strategy, one can effectively communicate the outcomes of the oil spill response exercise, build trust, and demonstrate a commitment to continuous improvement in environmental protection and emergency response efforts.

8.1 Target Audience

The guidance document should be distributed to a broad range of stakeholders to ensure widespread understanding and integration of the recommended response strategies. Key target groups include:

8.1.1 Governmental and Regulatory Bodies

National and local government agencies responsible for environmental protection, maritime affairs, and disaster management are the primary users of the guidance document. These bodies will use the document to:

- Develop or update national contingency plans.
- Strengthen regulatory frameworks and enforcement mechanisms.
- Coordinate response actions during incidents.

8.1.2 International and Regional Organizations

International and regional organizations, such as the Regional Marine Pollution Emergency Response Centre (REMPEC) and the European Maritime Safety Agency (EMSA), play a crucial role in coordinating multinational response efforts. These organizations will use the guidance document to:

- Align national response strategies with regional and international best practices.
- Facilitate cross-border collaboration and resource-sharing during oil spill incidents.

8.1.3 Private Sector and Industry Stakeholders

Private sector entities, including oil companies, shipping firms, and operators of offshore installations, must be informed of the guidance to ensure that their activities align with national and international oil spill preparedness and response standards. These stakeholders will:

- Incorporate the guidance into their own response plans and operational procedures.
- Participate in joint response exercises and contribute resources to national and regional response efforts.

8.1.4 Non-Governmental Organizations (NGOs) and Environmental Groups

NGOs and environmental advocacy groups can play a valuable role in monitoring and supporting response efforts, particularly in the areas of wildlife protection and environmental restoration. These groups should be engaged through the dissemination of the guidance document to:

- Participate in planning and preparedness activities.

- Contribute expertise in environmental sensitivity and rehabilitation.

8.1.5 Local Communities and Media

Engaging local communities and the media is essential for building public awareness and understanding of oil spill response actions. While these groups are not the primary users of the document, they should be informed of key response protocols through simplified versions or briefings, ensuring public trust and cooperation during incidents.

8.2 Methods of Dissemination

To ensure the guidance document reaches all relevant parties, multiple methods of dissemination will be employed:

8.2.1 Digital Distribution

Digital dissemination is the most efficient and cost-effective method of distributing the guidance document to a wide audience:

- **Official Websites**: The document will be made available on the websites of national authorities, regional organizations (e.g., REMPEC, EMSA), and relevant industry bodies.
- **Email Distribution**: The document will be circulated via email to key stakeholders, accompanied by summaries or guidance on its use.
- **Online Repositories**: The document can be uploaded to centralized online platforms or databases that are accessible to international response agencies and environmental organizations.

8.2.2 Workshops and Training Sessions

Workshops and training sessions provide an opportunity for in-depth dissemination of the guidance document, allowing stakeholders to engage with the content and understand how to apply it in practice:

- **National Workshops**: Government agencies, private sector operators, and response teams should participate in workshops focused on key elements of the guidance, including response strategies, communication protocols, and resource mobilization.
- **Regional and International Conferences**: Presenting the guidance document at relevant conferences and meetings ensures alignment with regional and international frameworks. These forums also provide a platform for exchanging best practices and feedback on the document's effectiveness.

8.2.3 Media and Public Awareness Campaigns

A targeted media and public awareness campaign ensures that local communities and other interested parties understand the key components of oil spill response preparedness:

- **Press Releases**: Media briefings or press releases announcing the publication of the guidance document will inform the public and stakeholders about its availability and key elements.
- **Social Media Campaigns**: Social media platforms can be used to disseminate summaries of the guidance document, with links to the full document for those seeking further information.
- **Community Outreach**: Local governments can conduct outreach programs to inform community members of their role in oil spill response efforts, as outlined in the guidance.

8.3 Monitoring and Feedback Mechanism

Effective dissemination requires continuous monitoring to ensure the guidance document reaches the intended stakeholders and is implemented as intended.

8.3.1 Tracking Distribution

National authorities, in collaboration with regional partners, should track the distribution of the document by:

- **Monitoring Downloads**: Tracking the number of downloads and access requests from official websites and online platforms.
- **Feedback from Recipients**: Requesting acknowledgment of receipt and feedback from key stakeholders, including suggestions for improvements or additional training needs.

8.3.2 Continuous Updates

The guidance document must remain a living document, updated regularly to reflect lessons learned from exercises, incidents, and advancements in oil spill response techniques. A feedback loop should be established to:

- **Gather Input from Stakeholders**: Stakeholders should be invited to submit their experiences using the guidance during actual incidents or exercises, contributing to periodic reviews and updates.
- **Incorporate New Technologies and Approaches**: Regular updates will ensure that the guidance document reflects the latest advancements in oil spill detection, containment, and recovery technologies.

8.3.3 Collaboration with International Partners

Collaboration with international partners is essential for ensuring that the guidance document is aligned with global oil spill response practices and standards. Regular communication with organizations such as REMPEC, the International Maritime Organization (IMO), and other international bodies is crucial for:

- **Harmonizing Response Standards**: Ensuring that the guidance aligns with international conventions, protocols, and best practices in oil spill response.
- **Facilitating Cross-Border Collaboration**: Promoting the use of the guidance document as a reference tool in cross-border spill incidents, allowing for coordinated action between nations.

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Annex 1

Outline of an SCP and its annexes
(Appendix 4 – IMO manual on oil pollution – Section II – 2018 edition)

Outline of the SCP CGI and its annexes

1. INTRODUCTION
   - 1.1 Background
   - 1.2 Acronyms and definitions
   - 1.3 Purpose and objectives
   - 1.4 Scope and coverage

2. POLICY AND RESPONSIBILITIES
   - 2.1 Joint policy
   - 2.2 Designation and responsibilities of competent national Authorities
   - 2.3 Exchange of information
   - 2.4 Mechanism for the activation of the Plan
   - 2.5 Meetings of national Operational Authorities responsible for the implementation of the Plan
   - 2.6 Joint training and exercises

=3. RESPONSE ELEMENTS AND PLANNING
   - 3.1 Assumption of the lead role
   - 3.2 National On-Scene Commander (NOSC) / Supreme On-Scene Commander (SOSC)
   - 3.3 Emergency Response Centres / Joint Emergency Response Centre
   - 3.4 Support teams
   - 3.5 Command structure
   - 3.6 Communications arrangements
   - 3.7 Response planning
   - 3.8 Response strategy

4. RESPONSE OPERATIONS
   - 4.1 Response phases
   - 4.2 Spill surveillance and forecasting
   - 4.3 Requests for assistance within the framework of the Plan
   - 4.4 Joint response operations
   - 4.5 Use of dispersants and other non-mechanical response methods
   - 4.6 Termination of joint response operations and deactivation of the Plan

5. REPORTS AND COMMUNICATIONS
   - 5.1 Communication system
   - 5.2 Pollution reporting system (POLREP)
   - 5.3 Post incident reports
   - 5.4 Reports to and communication with REMPEC

6. ADMINISTRATION AND LOGISTICS
   - 6.1 Logistics
   - 6.2 Financing
   - 6.3 Customs, immigration, overflight and navigational procedures
   - 6.4 Health and safety
   - 6.5 Documentation of response operation and related costs
   - 6.6 Revision of the Plan

7. PUBLIC INFORMATION
   - 7.1 Public Information Office (PIO)
   - 7.2 Press release / Press conference

ANNEXES

Annex 2
(in progress)