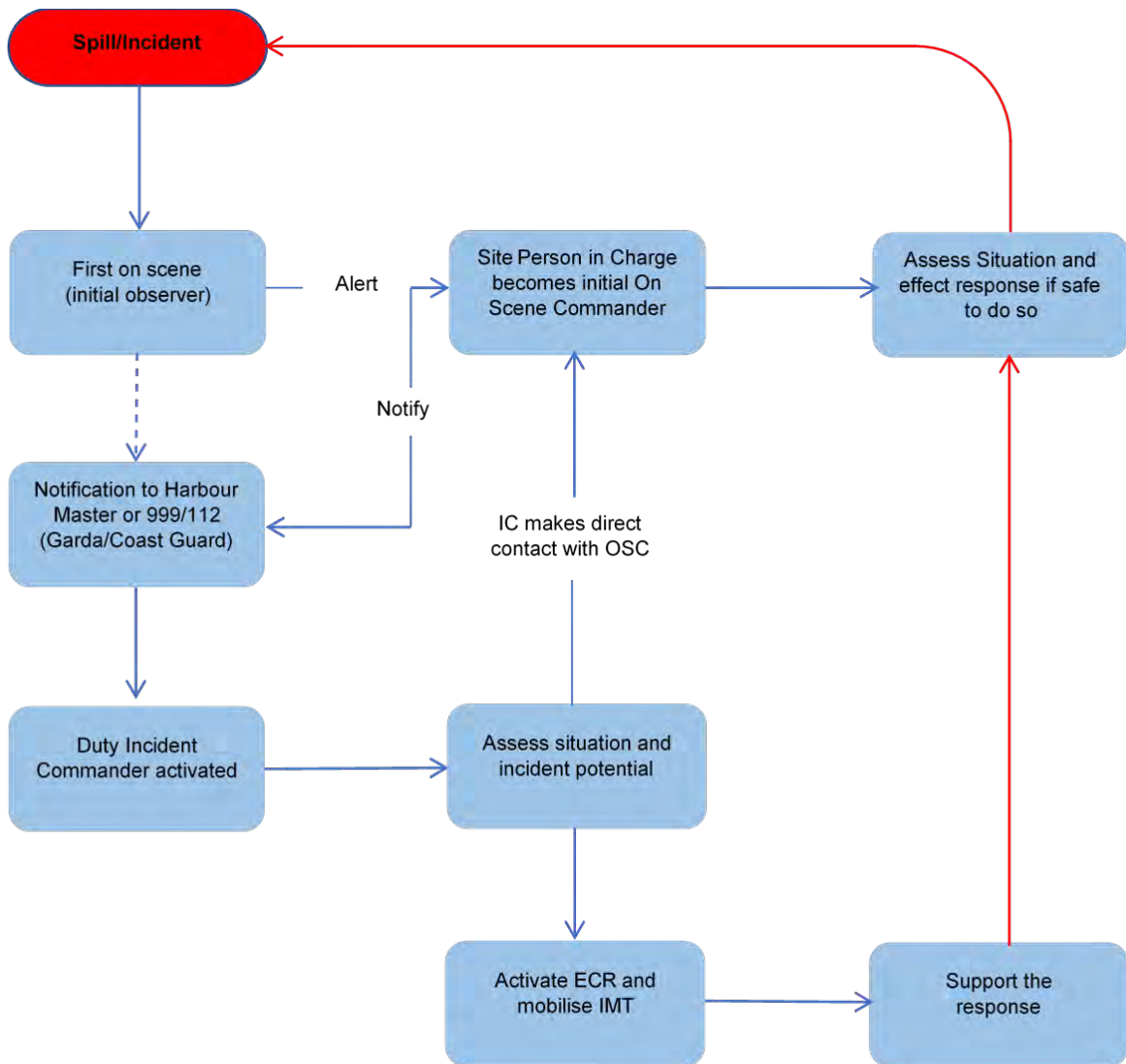


SHANNON ESTUARY OIL/HNS SPILL CONTINGENCY PLAN



Shannon Foynes Port
Harbour Office
FOYNES
County Limerick

**TO ACTIVATE THIS PLAN CALL:
DUTY HARBOUR MASTER
Daytime +353 6973103
Out-of-hours +353(0)87 2542266**



Once activated go to Page 10 for further actions

Table of Contents:

TABLE OF CONTENTS:.....	3
AMENDMENT RECORD	5
INTRODUCTION.....	6
PURPOSE OF PLAN.....	6
OBJECTIVES:	6
SCOPE OF PLAN – AREA OF RESPONSIBILITY.....	7
INCIDENT PLAN HIERARCHY.....	8
PHASE 1 – DISCOVERY AND NOTIFICATION	9
PHASE 2 - DEVELOPMENT OF AN INCIDENT ACTION PLAN	19
PHASE 3 – INCIDENT ACTION PLAN IMPLEMENTATION.....	23
PHASE 4 – RESPONSE TERMINATION AND DEMOBILISATION	26
PHASE 5 – POST OPERATIONS – DOCUMENTATION OF COSTS AND LITIGATION	27
1 DEFINITIONS AND ABBREVIATIONS	29
2 IRISH COAST GUARD NOTIFICATION.....	31
3 INCIDENT COMMAND STRUCTURE, ROLES AND RESPONSIBILITIES.....	33
4 RISK ASSESSMENT.....	65
5 TRAINING AND EXERCISE REGIME	79
6 SHORELINE CLEAN-UP ASSESSMENT TECHNIQUE (SCAT).....	82
7 RESPONSE STRATEGIES:	99
8 HNS RESPONSE ACTIVATION	122

9	DISPERSANT USE:.....	133
10	HEALTH AND SAFETY.....	135
11	WILDLIFE RESCUE AND REHABILITATION	140
12	EVIDENCE COLLECTION	143
13	WASTE MANAGEMENT	153
14	PLACE OF REFUGE.....	161
15	STAKEHOLDER MANAGEMENT	164
16	FINANCIAL MANAGEMENT PROTOCOLS.....	177
17	DOCUMENTATION PROCEDURES	180
	ANNEX 1 CONTACT LIST	182
	ANNEX 2 TRAINING AND CERTIFICATIONS.....	183
	ANNEX 3 EQUIPMENT AND RESOURCES.....	185
	ANNEX 4 – COMMUNICATION EQUIPMENT AND PROTOCOLS	203
	ANNEX 5 – TIER 2 SERVICE AGREEMENT	205
	ANNEX 6 – INCIDENT COMMAND FORMS	206
	ANNEX 7 MODELLING TOOLS.....	210

Amendment Record

Amendment	Date	Amended by	SFPC Approved
Original Document	April 2018	MWI Risk Management	Hugh Conlon Harbour Master
Revision to 2020 NCP format	Sept 2023	MWI Risk Management	Mick Kennelly Harbour Master
Amendments re IRCG feedback	Mar 2025	MWI Risk Management	Mick Kennelly Harbour Master

Introduction

The Shannon Foynes Port Company (SFPC) has a moral, legal and business obligation to provide a process, procedures and resources to respond to oil spill incidents within its area of operational responsibility.

This plan describes the graduated and Tiered response process developed to fulfil these obligations and to provide a robust and coordinated response to oil spill incidents.

The plan takes full account of requirements made within the National Framework for the Management of Major Emergencies and the National Contingency Maritime Oil/HNS Spill Contingency Plan 2020, in particular Standard Operating Procedure 05-2020 Content and implementation of an oil/HNS contingency plan and Standard Operation Procedure 04-2020 Establishing a Shoreline Response Centre.

Purpose of Plan

This plan details how SFPC together with members of the Shannon Estuary Anti-Pollution Team (SEA-PT), Principal Response Agencies (PRA's) and Principal Emergency Services (PES's) will respond to a Tier 2 oil spill within its area of responsibility.

The primary purpose of this plan is to set in motion the necessary actions to stop or minimise such a spill and to mitigate its effects.

As part of this Tier 2 Plan, reference should be made to the Tier 1 plans of individual SEA-PT members.

In the event of a Tier 3 response within the Shannon Estuary, this plan will provide the Irish Coast Guard and other National Authorities with specific regional information to assist in responding effectively to the spill.

Objectives:

This plan guides the Incident Commander and other involved personnel through the decisions which will be required during an incident response.

The primary objectives of this plan are:

- To prevent further pollution/damage caused by the spill.
- To contain and clean up a marine spill.
- Cause no further damage to the marine environment or create unacceptable risk to those responding to or impacted by the incident.

Specific objectives are to:

- Mobilise appropriate personnel, equipment and other resources.
- To ensure the safety of responding personnel and others that may be affected by the spill/incident.
- Make all necessary notifications to relevant authorities and agencies.
- Instigate appropriate containment, recovery, and clean-up operations to control and mitigate the effects of the spill and contribute to the restoration of the environment.
- Initiate, as appropriate, wildlife rescue and rehabilitation operations.
- Gather evidence throughout the operation for possible legal action.
- Maintain accurate records so that the cost of the response operation may be accurately assessed.

Scope of Plan – Area of Responsibility

SFPC together with SEA-PT are responsible for initial Tier 2 spill response management within the Shannon Estuary from Limerick City to the mouth of the Shannon Estuary at a notional line from Loop Head, County Clare to Kerry Head, County Kerry.

SFPC and SEA-PT members are involved in commercial and industrial operations on both side of the Estuary and each has an obligation to develop and maintain emergency response plans appropriate to Tier 1 response.



Map 1. Shannon Estuary

Issue
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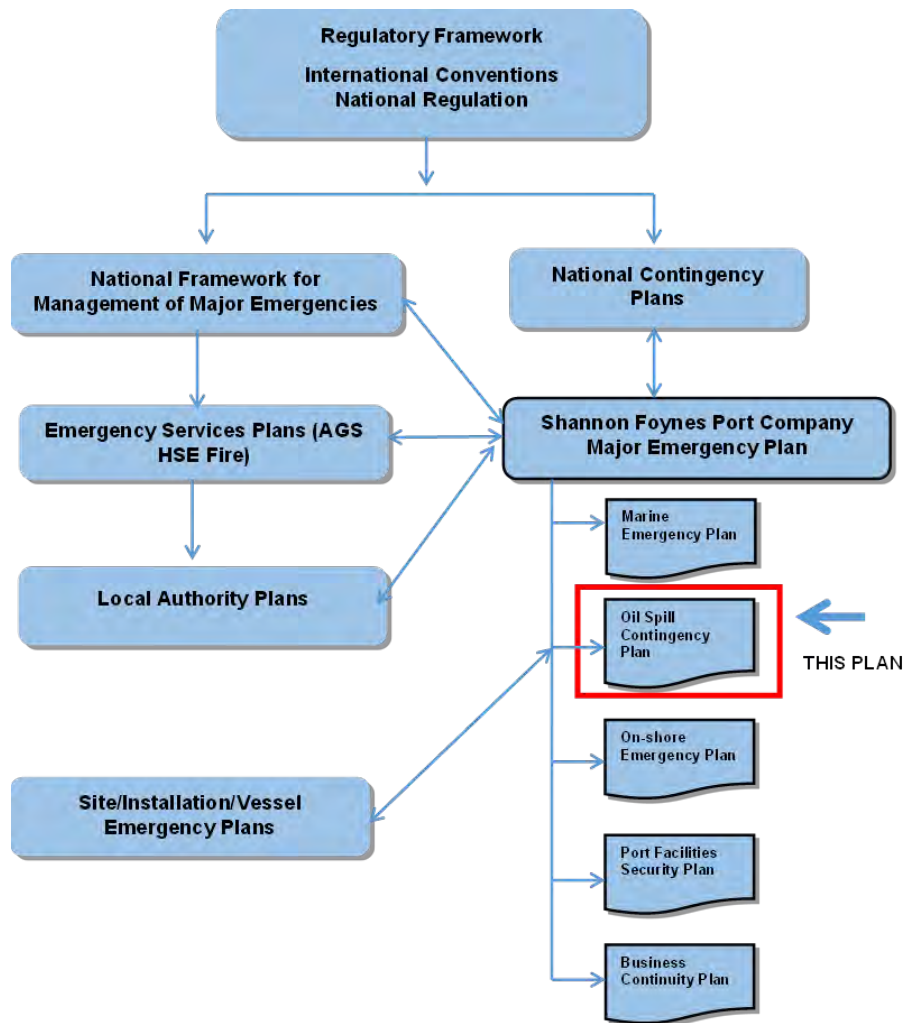
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Page No.
7

Incident Plan Hierarchy

This Oil/HNS spill contingency plan forms part of a hierarchy of plans developed within the National Regulatory Framework and maintained within SFPC, SEA-PT members, emergency services and other National and Local Government Agencies and Departments. In the event of an oil spill, the activation of any of these plans would necessitate the activation of this plan.



Operational Phases

Phase 1 – Discovery and Notification, Evaluation, Identification and Activation

Phase 2 – Development of an Action Plan

Phase 3 – Action Plan Implementation

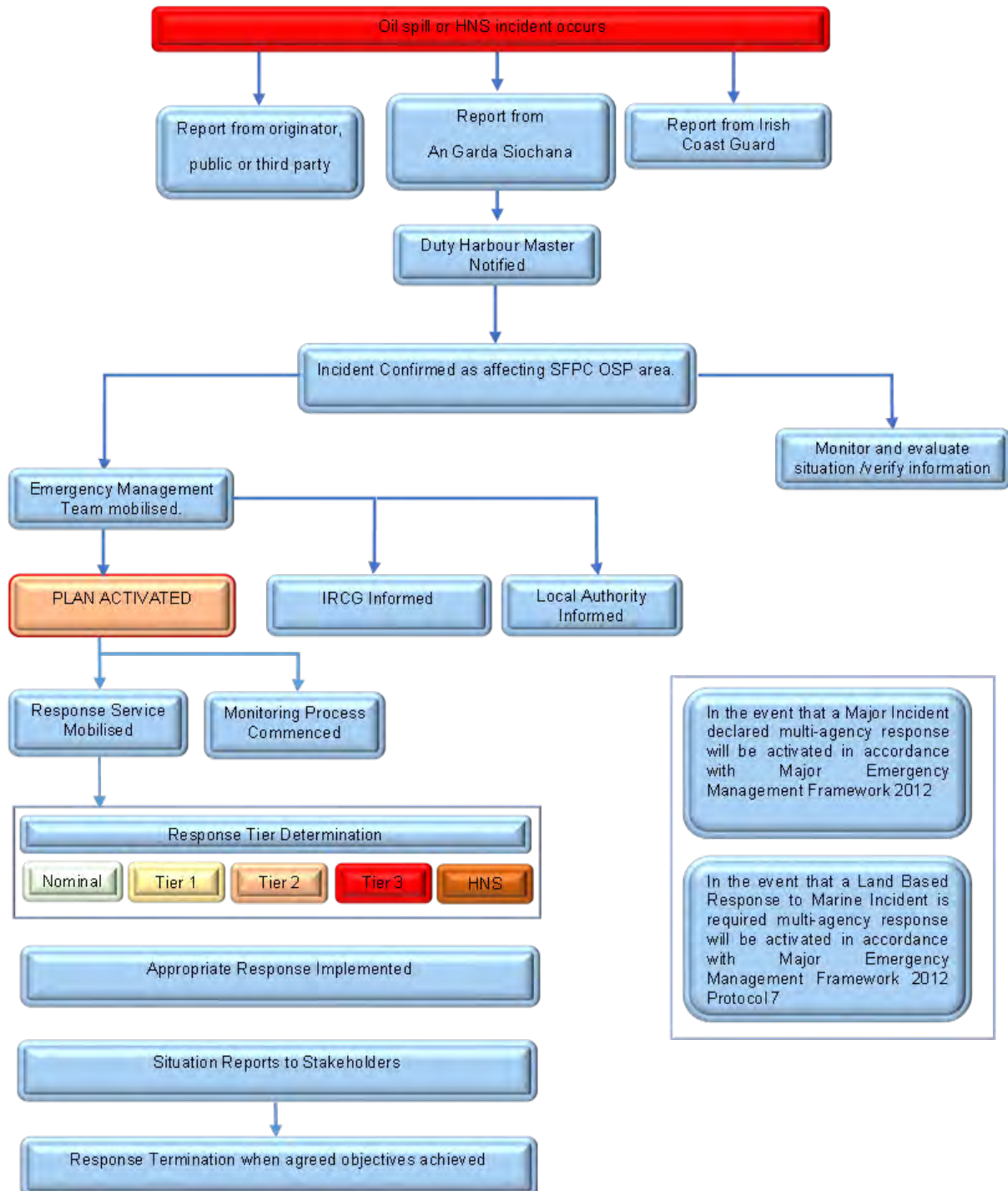
Phase 4 – Response Termination and Demobilisation

Phase 5 – Post Operations and Documentation

Phase 1 – Discovery and Notification

Discovery and notification of a marine oil spill incident:

An oil spill may be discovered and reported through any number of sources: the spiller, a member of the public or other 3rd party, emergency services or the Coast Guard.



On receipt of initial notification, the following information should be obtained as a minimum:

Issue	Date	Status	Page No.
2	Oct 2023	Draft for Approval	9

- Location and type of pollution incident
- Type of oil
- Extent of spill – area of coverage
- Time of incident
- Potential hazardous circumstances – i.e. large release of light ends
- Any other relevant data

A Pollution Incident Form should also be completed – see Chapter 3.

An oil spill report will require follow-up action to be taken in accordance with this plan.

All reports of oil spills within the Shannon Estuary must be notified to:

Organisation	Action	Contact Details
SFPC Duty Harbour Master		Day +353 6973103
Irish Coast Guard		Out-of-hours +353 (0)87 2542266 999/112 ask for Coast Guard Or 01 6620922
		POLREP See Chapter 2 mrccdublin@transport.gov.ie
Appropriate Local Authority		
– Clare County Council		Brendan Flynn 065 6846425 OR 087 2901726
– Kerry County Council		Mike Boyce 066 7121111 OR 087 9878198
– Limerick County Council		Paul O’Grady 061 496000 OR 087 9115000
Environmental Protection Agency		021 4875540

Evaluation and identification of a marine oil spill incident:

On receiving a report of an oil spill the receiving officer shall:

- Complete as much detail on the Pollution Incident Evaluation Form (**Chapter 2**) as possible.
- Investigate or arrange for an investigation to be immediately carried out in order to confirm the details of the report.
- Ensure that above notifications have been made as appropriate.

The Pollution Incident Evaluation Form may be used as evidence in any legal proceedings against the spiller as well as being of assistance with respect to the response, therefore as much detail should be obtained during the initial report.

Actions of Duty Harbour Master:

Once informed the Duty Harbour Master will assess the information provided and decide upon the appropriate course of action which may include:

– No response required:

Upon investigation and clarification of the initial report it may be clear that no response action is required. In this case the Irish Coast Guard and appropriate Local Authority shall be notified, and the incident closed.

– No immediate response required - standby mode:

If no immediate response is required (e.g., because oil is heading offshore/nominal spill), the Duty Harbour Master will assess the situation and where necessary:

- Place the Incident Management Team on "standby" mode.
- Establish monitoring of the slick and likely fate of the oil
- Be prepared to declare a response
- Advise stakeholders as required.

– Response required:

If the Duty Harbour Master decide that a response is required, he will:

- Determine the level of response required - Tier1 (Installation/spiller response) Tier 2 (SFPC - SEA-PT response), Tier 3 (National response coordinated by Coast Guard)
- Activate SFPC Incident Management Team in accordance with Shannon Foynes Port Company Major Emergency Plan

Issue	Date	Status	Page No.
2	Oct 2023	Draft for Approval	11

- Advise Coast Guard and appropriate Local Authority of response criteria and request assistance as required by the relevant Tier.
- Initiate initial response.
- Advise stakeholders as required (**see Chapter 15**)

The Harbour Master is responsible for the safety of navigation within the Harbour Authority defined areas of jurisdiction. In addition to mobilising the SFPC Incident Management Team (IMT), the Duty Harbour Master should give early consideration to:

- Prohibiting or limiting movement of vessels within the affected area.
- Suspending Port operations

Declaration of Tiered Response:

Tier Definition:

- TEIR 1** A tier 1 incident is one in which a small spill can be dealt with by personnel in the immediate vicinity and has no external impact. Each SEA-PT members maintains the capability and capacity to respond to a **Tier 1** incident
- TIER 2** A tier 2 incident is one which will require the combined resources of the organisations represented within SEA-PT. It may also require the involvement of regulatory bodies, local authorities, advisors and advisory bodies. In general, all spills in the Shannon Estuary, other than minor releases, will require a Tier 2 response.
- TIER 3** A Tier 3 incident is a major oil pollution event with potential for environmental, social, and economic impacts and which is beyond that capability of local resources. It will require local, national and probably international resources.

– **Tier 1 Response:**

In the event of a Tier 1 being activated, the spiller or installation personnel will respond in accordance with their local procedures.

The Duty Harbour Master will monitor the response to ensure;

- The response is adequate.
- That if the situation deteriorates, appropriate additional support is provided.
- The incident is properly managed.
- All notifications and reports are made.

– **Tier 2 Response:**

A Tier 2 response will require the activation of the SFPC Incident Management Team, and the resources of the Shannon Estuary Anti-Pollution Team (SEA-PT). This will instigate notifications to Irish Coast Guard and the appropriate Local Authorities and Tier 2 response specialists.

– **Tier 3 Response:**

A Tier 3 response is initiated by contacting the Coast Guard. A response at this level will be coordinated under the National Contingency Plan and within the Management of Major Emergencies Framework.

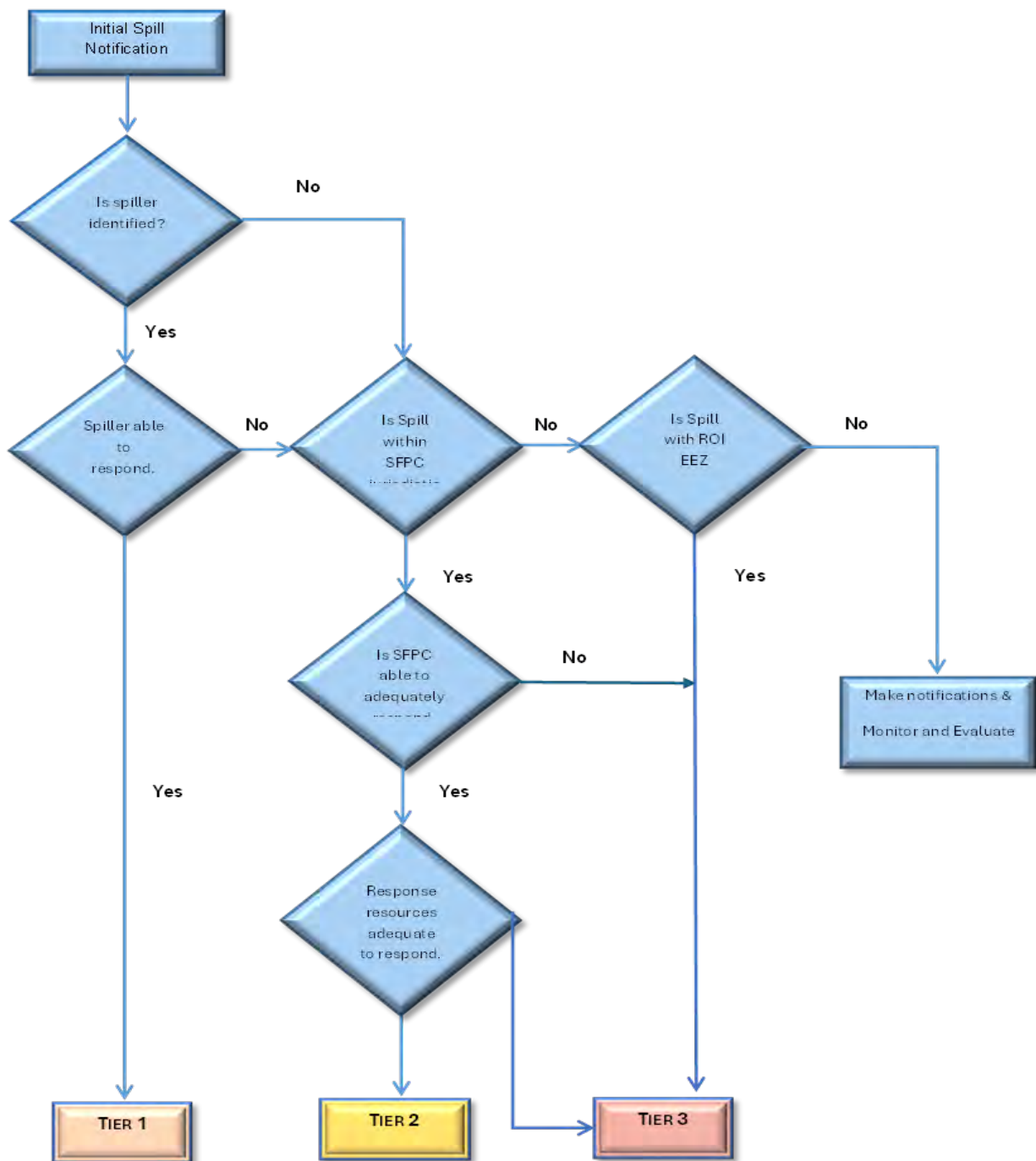
Tier Escalation:

The Tier escalation decision tree below is provided to assist the Duty Harbour Master or On-Scene Coordinator to effectively determine the scale of the incident and level of response required.

– **Key considerations include:**

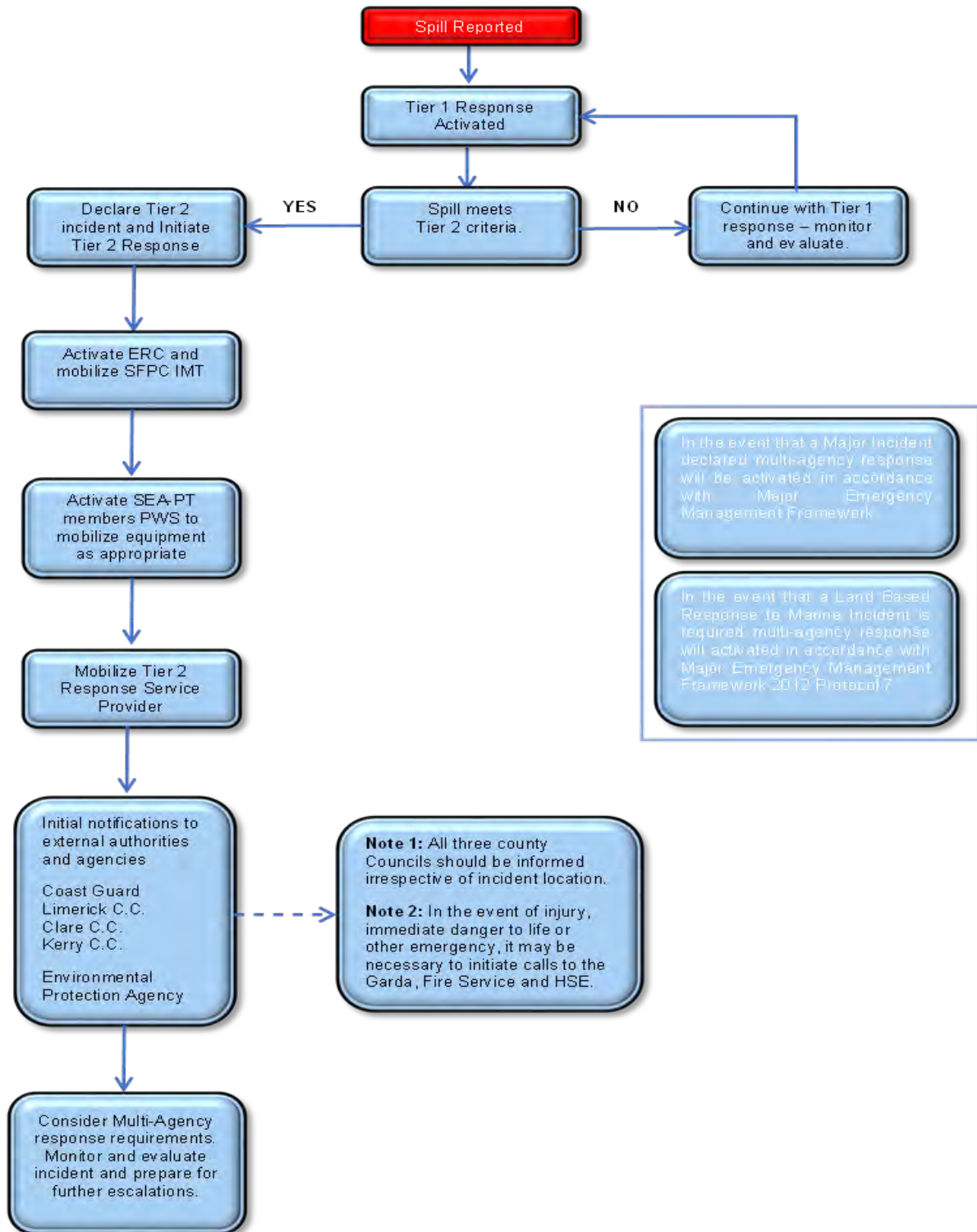
- The type and nature of the product released.
- Location of the release
- Sources (including whether the release is controlled or on-going)
- Trajectory.
- Prevailing and expected weather conditions.
- Local risk factors, including environmentally, economic or socially sensitive areas
- Locally available resources (people and equipment)

Tier Escalation Matrix:

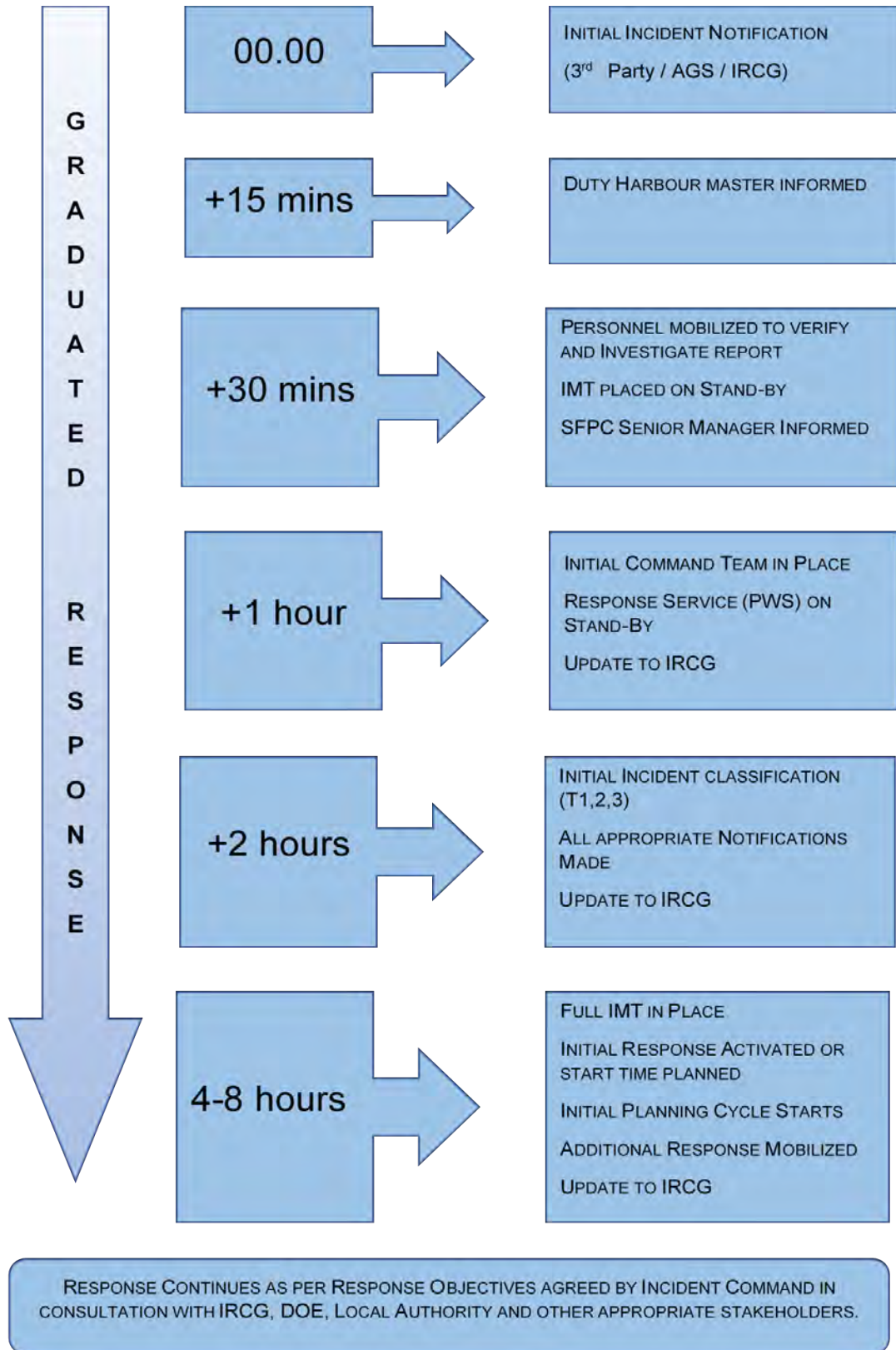


Tier 2 Response Activation

To activate a Tier 2 response, the Duty Harbour Master must activate the SFPC IMT and the SEA-PT in addition to key external authorities and agencies as follows:



Incident Response and Mobilisation Timeline



Incident Management Team (IMT) and Emergency Control Room (ECR):

In the initial stages of the oil spill response the IMT will work out of the Emergency Control Room located in the SFPC offices in Foynes Harbour. The On-Scene, or Forward Control, is likely to be established in one of the responder's vehicles, a local site office or other appropriate building with communications established by mobile telephone and or VHF radio.

Should a multi-agency approach be adopted, or Major Incident declared, under the Management of Major Emergencies Protocols (MEM) the IMT in consultation with the Local Authority and Irish Coast Guard, may decide to activate the open Local Co-ordination Centres.

The general Incident Management Structure for a Tier 2 response is shown on page 18.

During a large Tier 2 spill, most positions in the IMT will be filled by a number of persons in order to ensure coverage over a 24-hour period and multiple days. The Incident Commander is accountable for ensuring that the response organization is fully staffed taking into account health and safety of personnel, knowledge and experience and operational effectiveness. Individual section leads shall be responsible for the staffing of their sections.

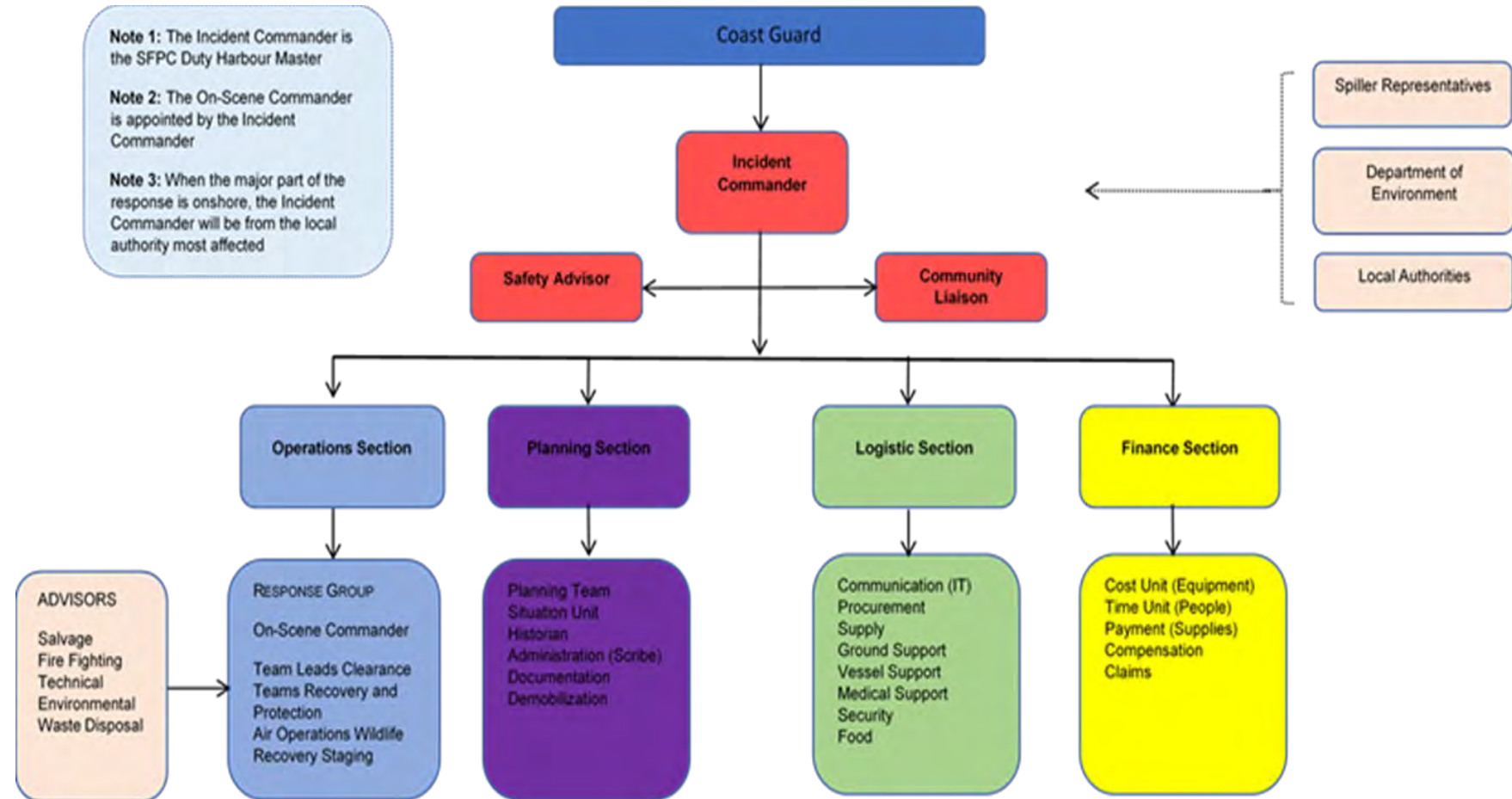
Key Reference Sections:

Chapter 3 – Incident Command Team Roles and Responsibilities

Annex 2 – Equipment and Resources

Annex 5 – Service contracts and MOU's

Teir 2 – Incident Management Team Structure:



Phase 2 - Development of an Incident Action Plan

Response Priorities

Response operations will be undertaken following a hierarchy that puts a precedence on the health, safety and welfare of responders and others that may be affected by the spill or incident. The second priority is protecting the environment and implementing actions that will facilitate remediation and recovery, followed by protecting any assets involved or affected. The fourth priority is protecting the reputation of the organizations involved. The mnemonic PEAR is adopted by way of aide-memoire:

- PEOPLE
- ENVIRONMENT
- ASSETS
- REPUTATION



When setting initial Incident Objectives, the Incident Commander should take into consideration both the meaning and intent of these priorities.

At the first notification of an incident a guiding principle of 'prudent overreaction' should be adopted. This allows for early escalation of a response and helps to protect the IMT from being overwhelmed or caught out in the early stages of a response and as the incident progresses.



O ver-react	<i>Prudent over-reaction means we call for support earlier and ready resources quicker</i>
A ssess	<i>Start the physical response with a formal assessment. In addition to confirming incident facts, it also allows us to define project needs.</i>
R espond	<i>Undertake, manage and continuously review response. Maintaining our PEAR response priorities</i>
S tand Down	<i>Objectives set by the IMT direct the conscious stand-down when the response is no longer beneficial, or our objectives have been met.</i>

Incident Action Plan

The Incident Action Plan (IAP) is a formal and approved document that sets out clear objectives and strategy for spill response, which is then converted into an operational, tactical plan/response by the Incident Management Team.

Each spill event requires a specific Incident Action Plan (IAP) tailored to the incident. The incident action planning process requires collaboration and participation among all incident management leaders and their staffs.

Most oil spill incidents follow two distinct stages:

Stage 1 – Reactive: during this period events can move quickly as new information appears, incident teams are mobilised, and response efforts commence. Decisions may be taken quickly and are often verbal.

Stage 2 – Proactive: during this period the incident has moved into ‘project’ stage. Personnel and resources are in place. The response and clean-up phase may last weeks or months.

The incident action planning process is built on the following phases:

1. Understand the situation.
2. Establish incident objectives.
3. Develop the plan.
4. Prepare and disseminate the plan.
5. Execute, evaluate, and revise the plan.

The product of this process, a well-conceived and complete IAP, facilitates successful incident response operations and provides a basis for evaluating performance in achieving incident objectives. The IAP identifies incident objectives and provide essential information regarding incident organization, resource allocation, work assignments, safety, and weather.

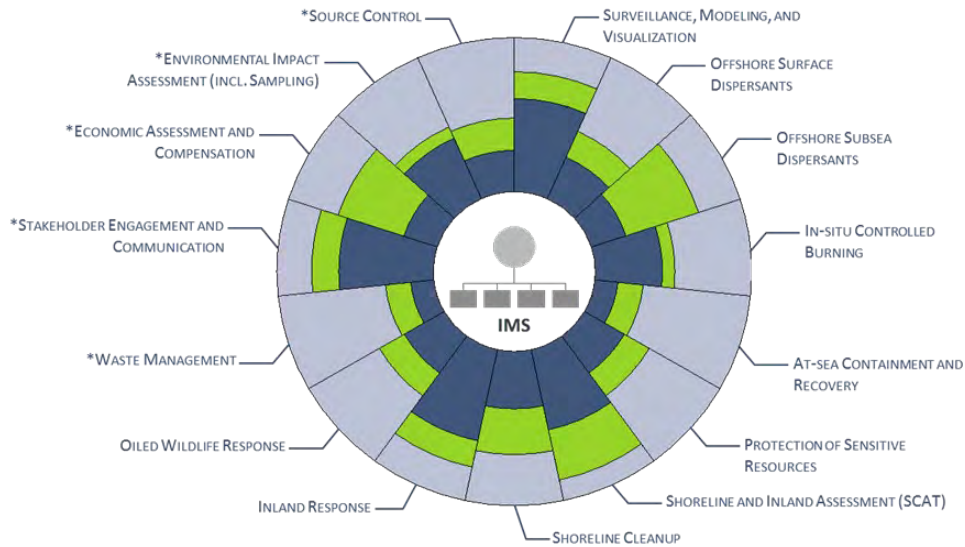
Incident Objectives

Incident Aims and Objectives drive the incident organization as it conducts response, recovery, and mitigation activities. Incident Objectives are set by the Incident Commander (IC) in consultation with Operations, Planning and Technical Advisors from appropriate authorities and agencies. The IC will take full cognisance of Response Priorities

IAP Development

The Planning Section creates the IAP for execution by the Operations Section. The plan takes account of the Incident Aims and Objectives, turning these into discrete tactics and work tasks.

When developing a response capability/strategy the following 15 elements should be considered.



Ref: IPIECA – different colours represent response levels Blue T1, Green T2, Grey T3. This is example only. Planning team will assess during plan development.

The development of the IAP must include an assessment of the appropriateness of any current spill response plan implemented at the Tier 1/Tier 2 level, considering the stage of the incident. Standard IAP template can be found in Chapter 17.

SEA-PT utilize the Web-Based ASAScience OILMAP. OILMAP is an oil spill response and contingency planning tool.



The RPSASA OILMAPWEB portal facilitates the management of spill response through risk and impact assessment, pre-planning, trajectory and fate modelling and data collation and retention. With integrated GIS it provides real time met ocean and a comprehensive oil database with complete oil properties information.

IAP Approval

The completed IAP is presented to the Incident Commander for approval. Additional approvals may be required from the Irish Coast Guard with concurrence from other agencies such as Local Authority and Environmental Protection Agency.

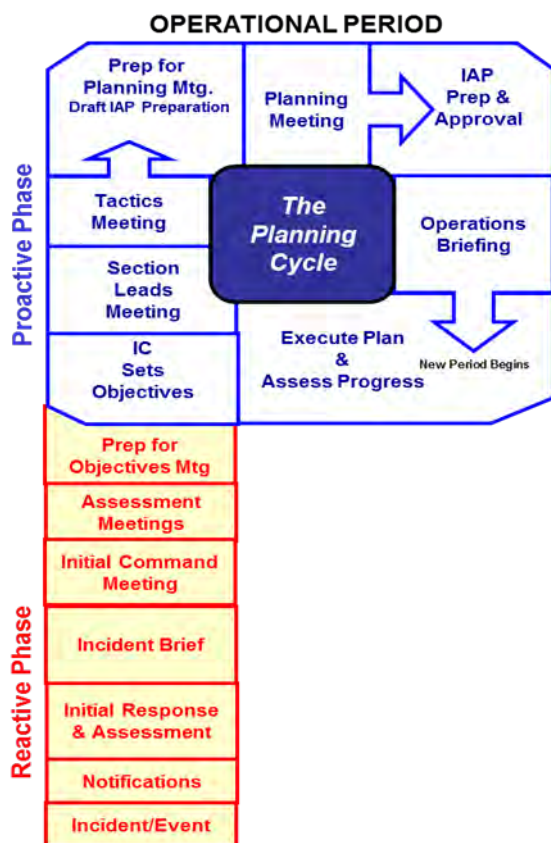
Phase 3 – Incident Action Plan Implementation

Planning Cycle

The incident management team is accountable for the effective implementation of the IAP. The implementation process following a Plan – Do – Check – Act cycle within the Incident Command Structure.

As discussed above, the typical response to an oil spill falls into phases – Reactive Phase and Pro-Active Phase. Response during both periods is managed through the application of the ‘Planning Cycle’. The Planning Cycle is a step-by-step process through which the Incident Commander and IMT can develop and implement an IAP in response to and in anticipation of developing events. The Planning Cycle is shown graphically as a “P”.

The Planning “P” is a guide to the process and steps involved in planning for an incident.



The top of the leg of the “P” depicts the operational planning cycle. In this circular sequence, a series of pre-set meetings drive the response and execution of the IAP.

The leg of the “P” describes the initial response period:

Once the incident/event begins, initial steps include IMT mobilization early notifications, Initial Response & Assessment, Incident Briefing

Planning begins with a thorough assessment that provides information needed to make initial management decisions – following the principle of *prudent over-reaction*.

Command Structure

The Incident Command structure needs to be flexible to take account of the early dynamic nature of spill response and the longer-term project nature of prolonged incidents.

There are FIVE main management sections:

- Command
- Operations
- Planning
- Logistics
- Finance

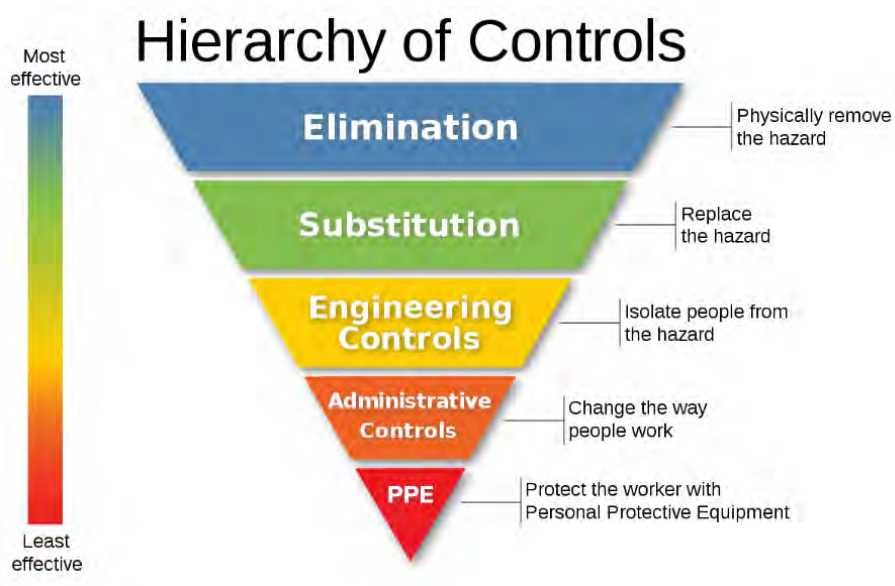
Through the pro-active mobilization and population of these sections, the response structure can be created to manage the most complex of spill events.

The initial response organization is shown on page 17.

Guidance on the larger response organization, including full Roles and Responsibilities is found in Chapter 3.

Health and Safety

The health and safety of responders and others who may be affected by the spill must take the highest priority. Following the Response Priorities PEAR and the Hierarchy of Controls illustrated below, all Health and Safety requirements MUST be incorporated into spill response operations and action.



Further guidance on health and safety management is found in Chapter 10.

Sampling and Evidential Collection

Full and accurate documentation of all response actions and associated costs is also a critical component of this process.

Chapter 12 - Evidence Collection sets out details for obtaining samples and gathering information to enable a successful prosecution and/or civil action to be taken.

Stakeholder Engagement and Media Response

Stakeholder Engagement and Media Management are an important set of activities that can build a bridge between key stakeholders (particularly the local community) affected by a spill and the response organization. It is a mechanism that facilitates the response organization and stakeholders to identify, assess and respond to concerns about issues that affect both the stakeholder and the response effort.

– The focus of engagement falls into three broad areas:

1. Helping develop the response strategy by identifying and understanding concerns before they occur.
2. Addressing issues identified or raised by stakeholders.
3. Effective and pro-active communication

Stakeholder Engagement and Media Management guidance may be found in Chapter 14.

Documentation

Full and accurate documentation of all response actions is a critical component of the response process and may form part of future investigations and potential legal actions. Records of all communications (telephone conversations, file note), and a chronological account of the incident must be kept.

Guidance and instruction on Document Management may be found in relevant SFPC documents.

Cost Recovery

SFPC and SEA-PT respond to incidents based on the principle that the Polluter Pays. To facilitate cost recovery, it is necessary to capture, track and record all cost and financial transactions.

It necessary to work within a financial management and account process that is transparent, in keeping with good practice (including delegated authorization for expenditure) and auditable.

Guidance on financial management protocols may be found in relevant SFPC documents.

Phase 4 – Response Termination and Demobilisation

Response Termination

The Incident Commander, in consultation with the Irish Coast Guard, Local Authority and other appropriate Government agencies may terminate a response once Incident Objectives have been achieved and the incident response has been adequately completed.

It should be borne-in-mind that the incident response may be terminated, notwithstanding that remediation work may be on-going. Such a decision may be contentious and therefore all responding parties should be aligned on the rationale for standing-down the response.

Response termination involves the recovery, cleaning and maintenance of all equipment used during the response as well as the demobilisation of all personnel involved in the response and replacement of all consumables. It also involves the collation and completion of all documentation associated with the spill response, including expenditure reports.

Debriefing

A thorough debriefing of all key personnel involved in the response will be held. This will enable a review of the formal plans, response strategies and overall management of the response so that lessons can be learnt, and improvements made.

Phase 5 – Post Operations – Documentation of Costs and Litigation

Policy

It is the Policy of SPFC and SEA-PT to recover costs of oil pollution clean-up operations from the spiller.

Financial system

The arrangements for the control of expenditure, cost recovery and financial authority limits are contained in SFPC financial protocols.

It should be noted that costs will most likely continue to be incurred for some time after the termination of the response and clean-up phase of an incident. It will therefore be necessary to ensure a method for collating and accruing such additional costs.

Legal advice and considerations

Most oil spill events culminate in actions by various parties to seek cost recovery, compensation or other forms of legal action, both criminal and civil. The response must also be conducted within the legal framework concerning environmental protection, health and safety and waste disposal. It is therefore necessary to seek early guidance from legal counsel and be mindful of legal requirements during the development and execution of response plans and activities.

CHAPTER 1

DEFINITIONS AND ABBREVIATIONS

Issue
2

Date
Oct 2023

Status
For review

Page No
28

1 Definitions and Abbreviations

TERM/ABBREVIATION	DEFINITION
ALARP	As Low As Reasonably Practicable
AGS	An Garda Siochana
DOE	Department of Environment
ECR	Emergency Control Room
EEZ	Exclusive Economic Zone
IC	Incident Commander
ICC	Incident Command Centre
ICT	Incident Command Team
ICS	Incident Command Structure
IRCG	Irish Coast Guard
HFO	Heavy Fuel Oil
HNS	Hazardous and Noxious Substances
IAP	Incident Action Plan
IOM	International Maritime Organization
IMT	Incident Management Team
IPIECA	International Petroleum Industry Environmental Conservation Association
LA	Local Authority
LSC	Logistics Section Chief
MAS	Maritime Assistance Centre
MOME	Management of Major Emergencies
MRCC	Maritime Rescue Coordination Centre
NEBA	Net Environmental Benefit Analysis
NGO	Non-Government Organization
FSC	Finance Section Chief
OARS	Over-react, Assess, Respond, Stand-down
OCS	Operations Section Chief
OPRC	International Convention on Oil Pollution Preparedness, Response and Cooperation
OSC	On-Scene Commander
PEAR	People, Environment, Assets, Reputation (Response Objectives)
POLREP	Pollution Report
PORDM	Port of Refuge Decision Matrix
PSC	Planning Section Chief
RNLI	Royal National Lifeboat Institution
SCA	Special Area of conservation
SCAT	Shoreline Clean-up Technique
SEA-PT	Shannon Estuary Anti-Pollution Team
SFPC	Shannon Foynes Port Company
SITREP	Situation Report
SPA	Special Protection Area
SRC	Shoreline Response Centre
Tier 1	Site/Local level plan or response
Tier 2	Regional level plan or response

CHAPTER 2

REPORT FORMS

Issue
2

Date
Oct 2023

Status
For review

Page No
30

2 Irish Coast Guard Notification

INITIAL POLLUTION REPORT (POLREP)		
To:	MRCC Dublin Telephone +353 (0)1 6620922 email coastguardnmoc@transport.gov.ie	
From:	<i>Name of reporting entity</i>	Date and time of report:
1	DATE & TIME OF OBSERVATION	
2	NAME & CONTACT OF OBSERVER	
3	POLLUTION POSITION AND EXTENT	
4	POLLUTION CHARACTERISTICS	
5	POLLUTION SOURCE AND CAUSE	
6	WIND DIRECTION & SPEED	
7	CURRENT OR TIDE	
8	SEA STATE AND VISIBILITY	
9	POLLUTION DRIFT	
10	FORECAST	
11	IDENTITY OR SHIPS ON SCENE	
12	ACTION TAKEN	
13	PHOTOGRAPHS OR SAMPLES	

CHAPTER 3

INCIDENT COMMAND STRUCTURE: ROLES AND RESPONSIBILITIES

3 Incident Command Structure, Roles and Responsibilities

Structure of the Incident Management Team

The structure of the Incident Management Team (IMT) will be flexible so that it can change in numbers of required positions and personnel, as determined necessary by the Incident Commander.

If the response effort becomes too large to handle or exceeds Tier 2 response financial limits, an escalation from a regionally based Tier 2 response to a nationally based Tier 3 response would occur. The response may continue to be managed from the local Incident Command Centre, however Regional and National Command Centres may be opened in accordance with the Management of Major Emergency Protocols.

Every incident requires that certain management functions be performed. The problem must be identified and assessed, a plan to deal with it developed and implemented, and the necessary resources procured and paid for.

Regardless of the size of the incident, these management functions still will apply.

There are five major management functions that are the foundation upon which the ICS organization develops. These functions include:

- **Command:** Sets the incident objectives and strategies and has overall responsibility for the incident, including safety of personnel and internal and external communications
- **Operations:** Conducts operations to reach the incident objectives. Establishes the tactics and directs all resources.
- **Planning:** Supports the incident action planning process by tracking resources, collecting/analysing information, and maintaining documentation.
- **Logistics:** Provides resources and needed services to support the achievement of the incident objectives.
- **Finance & Administration:** Monitors costs related to the incident. Provides accounting, procurement, time recording, and cost analyses.

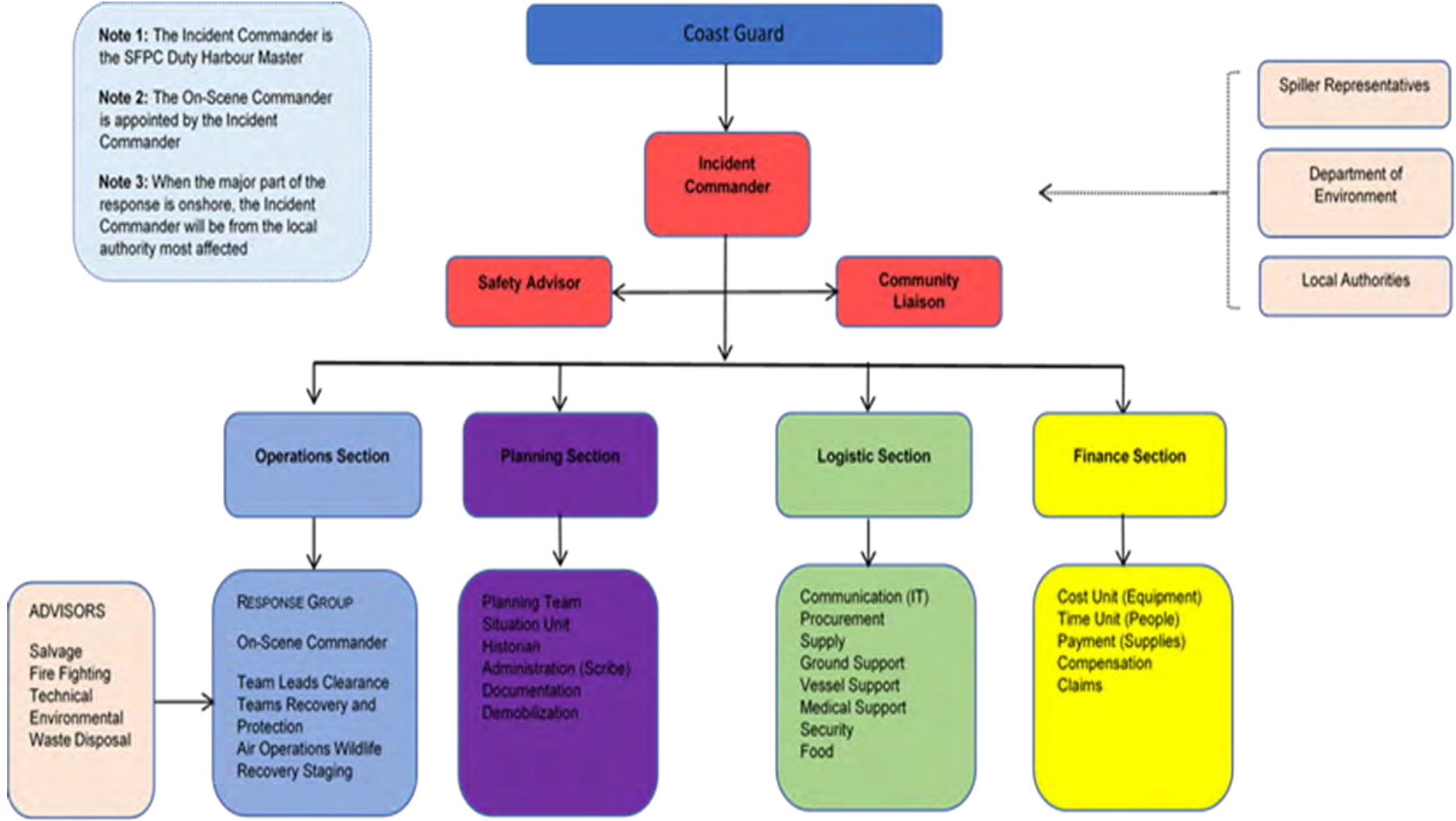
ICS organization is deliberately modular and has the capability to expand or contract to meet the needs of the incident. On a larger incident, the Incident Commander may create Sections and delegate the Operations, Planning, Logistics, and Finance/Administration functions as need dictate.

Initial Incident Command Organization

Note 1: The Incident Commander is the SFPC Duty Harbour Master

Note 2: The On-Scene Commander is appointed by the Incident Commander

Note 3: When the major part of the response is onshore, the Incident Commander will be from the local authority most affected



Key Responsibilities

Incident Commander

The Incident Commander (IC) has ultimate authority and accountability for Incident Management. The IC is specifically responsible for ensuring incident safety, providing information to internal and external stakeholders and establishing and maintaining liaison with other agencies participating in the incident. In addition, the IC establishes incident objectives and approves all plans.

Operations

The role of the Operations section is to provide specialist advice to the On-Scene Commander on how the effects of the oil spill should be mitigated and to control and co-ordinate and undertake the response effort both on-shore and off-shore.

Planning

The role of the Planning section is to provide any assistance required by the On-Scene Commander to outline resources, strategies, techniques, and information to respond to the spill. This will include disseminating any information received from operational staff and liaison with other organisations such as Department of Environment.

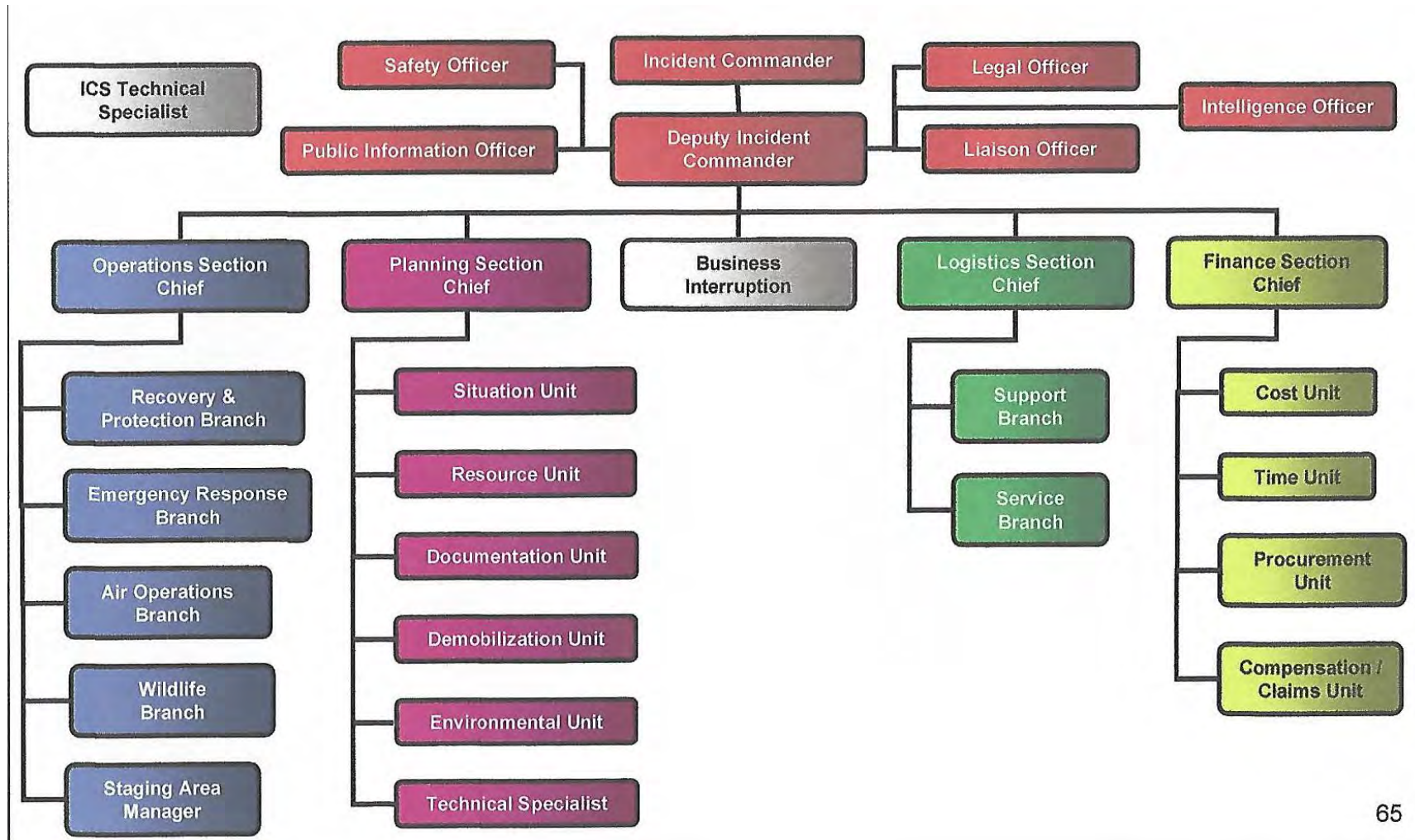
Logistics

The Logistics Section is responsible for providing all resources, services, and support required by the incident. The section includes procurement, receiving and supply functions. In addition, communications and medical support falls within the Logistics Section.

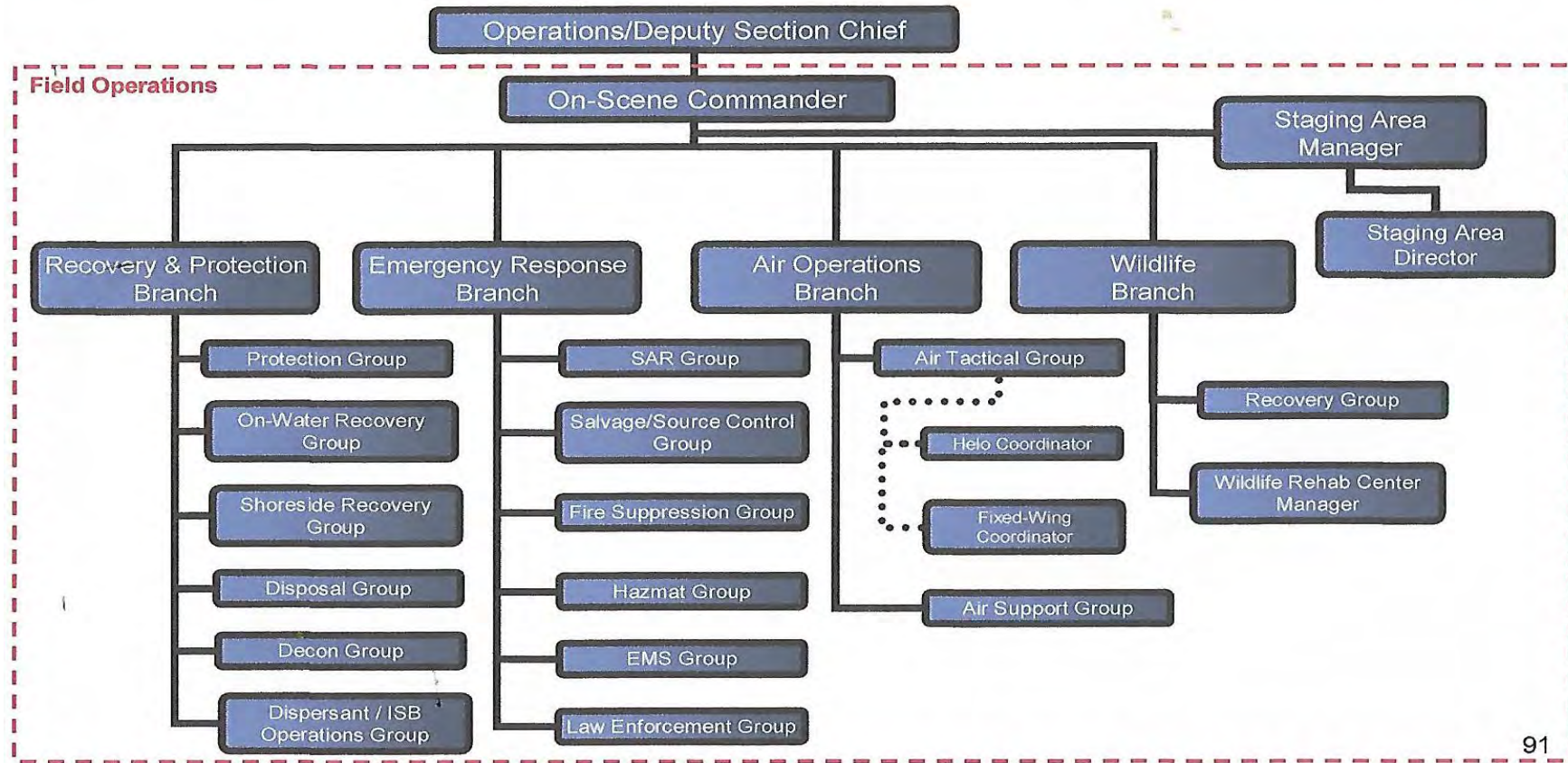
Finance

The Finance Section is responsible for the arrangement and co-ordination of the administrative aspects of the response, including documenting all the financial activities resulting from the response and for the procurement of materials and personnel to resource the response operation. This section is also responsible for ensuring that the communications system is running smoothly.

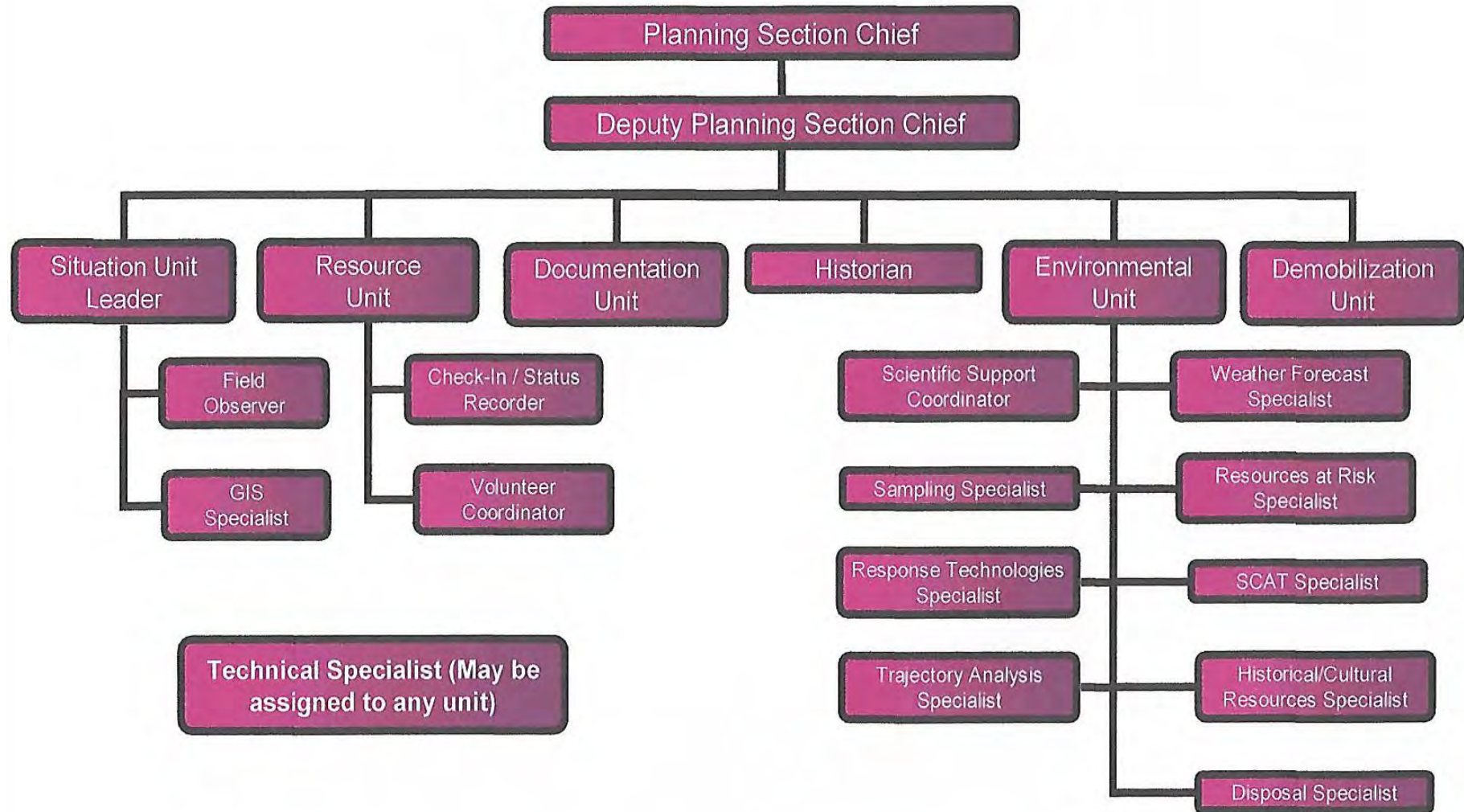
Extended Incident Command Organization (Large Incident)



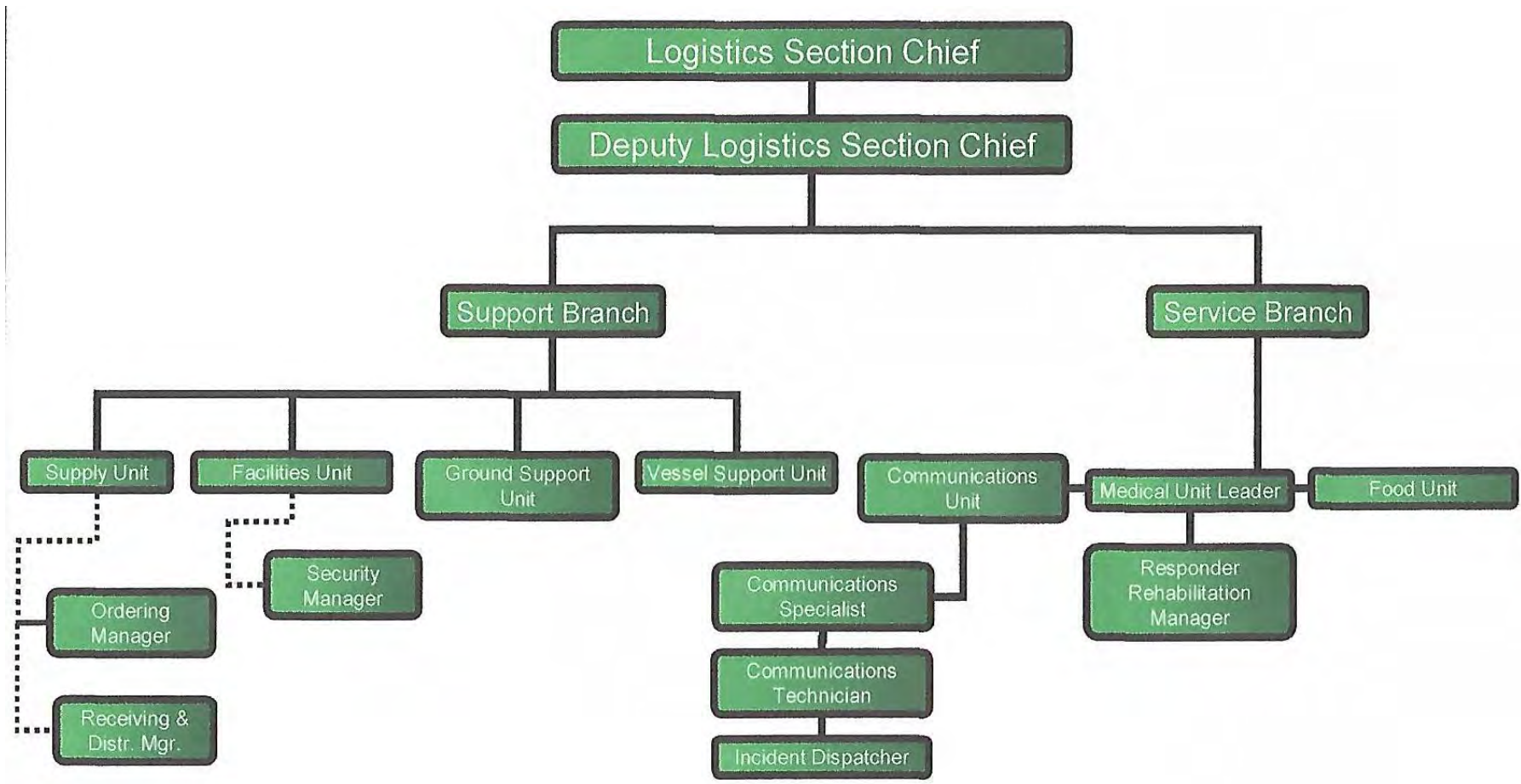
Extended Operations Section



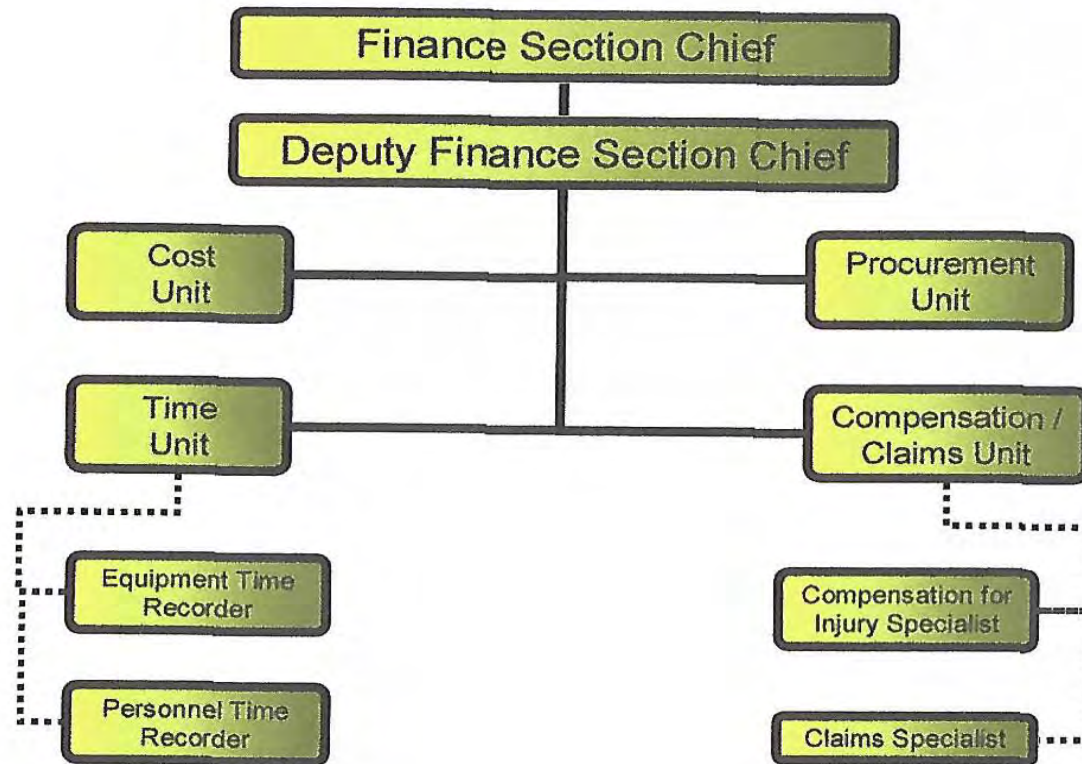
Extended Planning Section



Extended Logistics Section



Finance Section



These structures and positions are indicative only and the actual response structure required will be determined by the IC and IMT during the response. Depending on the size and requirements of the spill and response, many of these positions may be filled by more than one person. Alternatively, one person may be responsible for more than one of these roles.

The positions identified may be filled by Industry, local authority, response specialists or Irish Coast Guard personnel, depending on where expertise is found. Many roles are also likely to be filled by representatives of organisations with specialist functions, e.g. Police, Fire Service or other contractors.

Hours of work will be in accordance with the Health & Safety Requirements for the prevailing conditions, and in accordance with the Emergency Response Policy.

Key Actions and Roles

Common Responsibilities

- Receive assignment, notification, reporting location, reporting time, and travel instructions from IC.
- Upon arrival at the incident, check in at the IC.
- All radio communications will be addressed with the incident name
- Receive briefing from immediate supervisor.
- Acquire work materials.
- Complete forms and reports required of the assigned position and send material through to Administration/Logistics section.
- Respond to demobilisation orders.
- Ensure continuity using in/out briefings.

General Responsibilities

- Participate in management team meetings as required.
- Determine current status of your sections activities.
- Manage and motivate your team and monitor team performance.
- Ensure the response is being carried out at a reasonable cost.
- Enhance the response efficiency where possible.
- Confirm dispatch and estimated time of arrival of staff and supplies.
- Assign specific duties to your staff and supervise your staff.

- Determine resource needs.
- Supervise your section demobilisation, including storage of supplies.
- Maintain section records, including section/activity log.
- Maintain register team members including names and functions.
- Meet with assisting and cooperating company/agency representatives, as required.
- Review IAP and estimate your section needs for next operational period.
- Advise on current service and support capabilities.
- Estimate future service and support requirements.
- Ensure that all obligation documents initiated at the incident are properly prepared and completed.
- Recommend release of unit resources in conformance with the Demobilisation Plan.

The following descriptions do not currently include all the positions identified in the above organisation structures. Some responsibilities may also be found in other sections e.g., Wildlife and Shoreline-clean-up for example. Some position titles may also differ from those in the above structures.

Initial Incident Command Position – Roles and Responsibilities

Person Sighting the Spill		
RESPONSIBILITIES	<ul style="list-style-type: none"> ▪ Receive information / report of oil spill incident ▪ Contain or reduce leak IF SAFE TO DO SO ▪ Contact personnel in the vicinity to warn of potential hazard 	
STEP	ACTIONS	ADDITIONAL INFORMATION
ALERT	<ul style="list-style-type: none"> <input type="checkbox"/> Harbour Master <input type="checkbox"/> Local Authority <input type="checkbox"/> Pilot Station 	
INITIAL ACTIONS	Provide the following information <ul style="list-style-type: none"> <input type="checkbox"/> Injuries to personnel <input type="checkbox"/> Location of pollution incident <input type="checkbox"/> Time of incident / sighting <input type="checkbox"/> Type of oil spilled <input type="checkbox"/> Description of spill <input type="checkbox"/> Extent of spill <input type="checkbox"/> Cause (if known) <input type="checkbox"/> Status of source <input type="checkbox"/> Potential hazards 	
FURTHER ACTIONS		
FINAL ACTIONS		

OIL SPILL OBSERVER		
RESPONSIBILITIES	<ul style="list-style-type: none"> • Receive information / report of spill incident • Surveillance and tracking of the oil spill preferably from the air 	
STEP	ACTIONS	ADDITIONAL INFORMATION
ALERT		
INITIAL ACTIONS	<ul style="list-style-type: none"> <input type="checkbox"/> Obtain fullest information on the incident <input type="checkbox"/> Estimate probable position and movement of the slick <input type="checkbox"/> Request information from the oil spill prediction model <input type="checkbox"/> Brief pilot on objective of the flight <input type="checkbox"/> Locate the slick and carry out surveillance Quantify and characterise floating oil <input type="checkbox"/> Complete surveillance report form 	
FURTHER ACTIONS	<ul style="list-style-type: none"> <input type="checkbox"/> Log all events chronologically <input type="checkbox"/> Maintain liaison with Oil Spill Coordinator / On-Scene Commander 	
FINAL ACTIONS	<ul style="list-style-type: none"> <input type="checkbox"/> Collate personal logs and provide to Oil Spill Coordinator 	

DUTY HARBOUR MASTER

RESPONSIBILITIES	<p>Overall control of the shipping in the estuary</p> <ul style="list-style-type: none"> <input type="checkbox"/> Initial assessment of the situation <input type="checkbox"/> Verification of classification <input type="checkbox"/> Notifying IRCG (POLREP Chapter 2) <input type="checkbox"/> Provide accurate situation reports to On Scene Commander * and IRCG <input type="checkbox"/> Collect evidence and / or statements <input type="checkbox"/> Liaise with oil company or industry representative <input type="checkbox"/> Liaise with incident vessel regarding status of oil spill (if applicable) <input type="checkbox"/> After consultation with the Master and/or Owner's Agent decide what steps should be taken to safeguard the ship in question and the Port in general, and whether a full or partial emergency be declared <input type="checkbox"/> Contact On-Scene Commander (note : The (Duty) Harbour Master may be the nominated On-Scene Commander) <p><i>* The Harbour Master will normally have overall control of shipping in the estuary and co-ordinates oil spill response activities. In a major incident the roles may be split. In this event the Harbour Master would take overall control as per the Marine Emergency Plan and the Pollution Officer would act as the On Scene Commander.</i></p>	
STEP	ACTIONS	ADDITIONAL INFORMATION
ALERT	<ul style="list-style-type: none"> <input type="checkbox"/> IRCG <input type="checkbox"/> Fire Brigade <input type="checkbox"/> Garda <input type="checkbox"/> HSE – Public Health <input type="checkbox"/> Media, Other <input type="checkbox"/> Harbour Masters 	
INITIAL ACTIONS	<ul style="list-style-type: none"> <input type="checkbox"/> Visit vessel to establish incident details and current situation <input type="checkbox"/> Establish contact with emergency services <input type="checkbox"/> Advise fire fighting tugs to proceed to the scene of the emergency and take station under control of the Senior Fire Officer or take control personally 	

INITIAL ACTION CONT:	<p>depending on the nature of the incident</p> <ul style="list-style-type: none"> <input type="checkbox"/> Email POLREP (2.1.3) to IRCG <p>Do not delay submission waiting for full information. Send important information immediately.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Send launches and rescue craft (with necessary equipment) as appropriate controlled on VHF <input type="checkbox"/> Advise HSE Public Health of plan activation <input type="checkbox"/> Advise Oil Spill Coordinator (if applicable) 	
FURTHER ACTIONS	<ul style="list-style-type: none"> <input type="checkbox"/> Disseminate situation reports and information updates using IRCG and the Media <input type="checkbox"/> Put Pilot Station on stand-by <input type="checkbox"/> Coordinate the movement of all working vessels engaged on the spill <input type="checkbox"/> Use correct channels for VHF/RT communication. <input type="checkbox"/> Liaise with Oil Spill Coordinator (if applicable) 	
FINAL ACTIONS	<ul style="list-style-type: none"> <input type="checkbox"/> Conduct de-briefing <input type="checkbox"/> Publish Incident Report <input type="checkbox"/> Recommend changes to plan if appropriate 	

ON-SCENE COMMANDER		
RESPONSIBILITIES	<ul style="list-style-type: none"> • Development of the response strategy with the Oil Spill Coordinator and Advisors • Responsible for the implementation, effectiveness and cost of the oil spill response operation • Has complete authority over clean-up personnel at on water clean-up sites (LA controls onshore operations) • Liaison with involved authorities and the Shannon Estuary Anti-Pollution Team (SEAPT) Is responsible for safety, medical care and security at the spill sites, on recommendations from Safety and Security Advisors • Participates in Shoreline Response Centre (SRC) 	
STEP	ACTIONS	ADDITIONAL INFORMATION
ALERT	Spill Response Resources	
INITIAL ACTIONS INITIAL ACTION CONT:	<ul style="list-style-type: none"> <input type="checkbox"/> Develops spill response tactics based on Objectives and Strategy set by Incident Commander. <input type="checkbox"/> Calls out team members, advisors and resources appropriate to the response required <input type="checkbox"/> Liaise with local authorities about anticipated shoreline impacts <input type="checkbox"/> In conjunction with advisors develops the overall containment, recovery and clean-up plan <input type="checkbox"/> If required, and in consultation with local authorities and the Oil Spill Coordinator, participate in Shoreline Response Centre (SRC), close to the shoreline clean-up sites <input type="checkbox"/> Establish a communication base to co-ordinate all radio traffic at the scene between watercraft, aircraft, shore radio and the command or control centre <input type="checkbox"/> If incident is in Shannon Estuary, designate responsible person to 	

	<p>take control of waterborne response under his instructions</p> <ul style="list-style-type: none"> <input type="checkbox"/> Provides information to the Oil Spill On Scene Commander for use in media releases. 	
FURTHER ACTIONS	<ul style="list-style-type: none"> <input type="checkbox"/> Has continuous close contact with Oil Spill On Scene Commander and Advisors <input type="checkbox"/> Has continuous and close liaison with local authorities and advises of anticipated shoreline impacts <input type="checkbox"/> Has continuous close contact with supervisors, contract resources and logistic support services <input type="checkbox"/> Monitors spill clean-up activities and amends plans accordingly <input type="checkbox"/> Ensures that adequate records are kept and a personal diary is maintained 	
FINAL ACTIONS	<ul style="list-style-type: none"> <input type="checkbox"/> Collate personal logs. <input type="checkbox"/> Prepare the incident report. <input type="checkbox"/> Hold full debrief involving all members <input type="checkbox"/> Recommends changes to the plan if required 	

OIL SPILL COORDINATOR (SHANNON ESTUARY H.M.)

RESPONSIBILITIES	<input type="checkbox"/> Head Oil Spill Response Command Centre <input type="checkbox"/> Keep On-Scene Commander fully briefed on all factors that can influence the management of the response operation <input type="checkbox"/> Liaise with Government and Local Authorities/ oil company / industry representatives as appropriate <input type="checkbox"/> Approve press statements for release <input type="checkbox"/> Participate in Shoreline Response Centre (SRC) with local authorities	
STEP	ACTIONS	ADDITIONAL INFORMATION
ALERT	<input type="checkbox"/> Oil Spill Response Committee	
INITIAL ACTIONS	<input type="checkbox"/> Convene Oil Spill Response Committee <input type="checkbox"/> Prepare/authorise press statement in conjunction with Press/Media Advisor <input type="checkbox"/> Inform and brief IRCG, Department of Environment, local authorities and other bodies as appropriate <input type="checkbox"/> If required, and in consultation with local authorities and the On-Scene Commander, participate in the Shoreline Response Centre (SRC) , close to the shoreline clean-up sites	
FURTHER ACTIONS	<input type="checkbox"/> Chair the Oil Spill Committee meetings <input type="checkbox"/> Constantly review the strategy being employed and advise of changes where necessary <input type="checkbox"/> Attend all press conferences as required <input type="checkbox"/> Liaise with On-Scene Commander <input type="checkbox"/> Liaise with Advisors and support services e.g. Watercraft and aircraft operators	

FINAL ACTIONS	<input type="checkbox"/> Terminate the clean-up (subject to the agreement of all involved parties) <input type="checkbox"/> Collate personal logs. <input type="checkbox"/> Prepare the incident report. <input type="checkbox"/> Hold full debrief involving all members. <input type="checkbox"/> Initiate amendment of contingency plan(s) as required.	
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OIL SPILL RESPONSE COMMAND CENTRE

RESPONSIBILITIES	Confirm / amend initial classification <ul style="list-style-type: none"> • Manage the Shannon Foynes Port Company response. • Authorise expenditure • Brief Management and Board • Liaise with Government / local authorities/ oil company / industry representatives • Approve press statements for release 	
STEP	ACTIONS	ADDITIONAL INFORMATION
ALERT	<input type="checkbox"/> Management and board and oil spill response resources <input type="checkbox"/> IRCG/LA/Dept. of Environment <input type="checkbox"/> Oil Spill Response Advisors and Advisory Bodies <input type="checkbox"/>	
INITIAL ACTIONS INITIAL ACTION CONT:	<input type="checkbox"/> Confirm/ amend spill classification <input type="checkbox"/> If on water work with Harbour Master as On-Scene Commander. In addition if onshore co-ordinate with Local Authorities. <input type="checkbox"/> In conjunction with Advisors and On-Scene Commander determine oil spill response strategy <input type="checkbox"/> Advise IRCG of action taken/ planned <input type="checkbox"/> In conjunction with Advisors and On-Scene Commander determine response team composition and resources required (including advisors) <input type="checkbox"/> Authorise expenditure <input type="checkbox"/> Authorise mobilisation of oil spill response resources	

FURTHER ACTIONS	<input type="checkbox"/> In conjunction with Advisors constantly review the strategy being employed and advise of changes where necessary <input type="checkbox"/> Approve all expenditure commitments <input type="checkbox"/> Be represented at all press conferences. <input type="checkbox"/> Brief Management and Board	
FINAL ACTIONS	<input type="checkbox"/> Terminate the clean-up (subject to the agreement of all involved parties) <input type="checkbox"/> Collate personal logs. <input type="checkbox"/> Prepare the incident report. <input type="checkbox"/> Hold full debriefs involving all members. <input type="checkbox"/> Amend contingency plan(s) as required. <input type="checkbox"/> Prepare and forward final accounts to Polluter	

OFFSHORE CLEAN-UP SUPERVISOR		
RESPONSIBILITIES	<ul style="list-style-type: none"> • Receive information / report of incident • Control of individual clean-up operation (in liaison with vessel master) 	
STEP	ACTIONS	ADDITIONAL INFORMATION
ALERT	<input type="checkbox"/> Contractors	
INITIAL ACTIONS	<input type="checkbox"/> Obtain fullest information on the incident from On-Scene Commander <input type="checkbox"/> Arrange for the preparation of oil spill equipment and proceed to the location as directed by On-Scene Commander <input type="checkbox"/> Supervise local on water containment, recovery and clean-up operations <input type="checkbox"/> Advise On-Scene Commander of progress and request further assistance / backup if necessary <input type="checkbox"/> Liaise with Local Authority Shore Clean-up Supervisors and advise them of predicted shoreline impacts <input type="checkbox"/> Liaise with contractors on spill combating methods	
FURTHER ACTIONS	<input type="checkbox"/> Log all events chronologically <input type="checkbox"/> Maintain personnel log	

FINAL ACTIONS

- Arrange for return and cleaning and maintenance of oil spill equipment
- Submit personal log to Harbour master

ONSHORE CLEAN-UP SUPERVISOR (LOCAL AUTHORITY)

RESPONSIBILITIES	<ul style="list-style-type: none"> • Receive information / report of incident • Control of individual clean-up operation (in liaison with vessel master) • Liaison with Local Authority 	
STEP	ACTIONS	ADDITIONAL INFORMATION
ALERT	<input type="checkbox"/> Contractors	
INITIAL ACTIONS	<input type="checkbox"/> Obtain fullest information on the incident from On-Scene Commander <input type="checkbox"/> Arrange for the preparation of onshore clean-up equipment and supplies and proceed to the location as directed by On-Scene Commander <input type="checkbox"/> Hold safety briefings <input type="checkbox"/> Liaise with Offshore Clean-up Supervisors in respect of predicted shoreline impacts and nearshore recovery operations <input type="checkbox"/> Liaise with contractors on clean-up methods	
FURTHER ACTIONS	<input type="checkbox"/> Supervise shoreline clean-up operations <input type="checkbox"/> Advise On-Scene Commander of progress and request further assistance / backup if necessary <input type="checkbox"/> Log all events chronologically	

	<ul style="list-style-type: none"> <input type="checkbox"/> Maintain contact with Local Authorities, On-Scene Commander, Offshore Supervisors and Contractors <input type="checkbox"/> Take samples of beach material as required <input type="checkbox"/> Maintain personal log 	
<p>FINAL ACTIONS</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Agree work completion for cleaned areas with Local Authorities, On-Scene Commander IRCG & Department of Environment <input type="checkbox"/> Arrange for return and cleaning/maintenance of oil spill equipment <input type="checkbox"/> Collate personal log and provide to On-Scene Commander 	

SEA-PT MEMBER NOT ACTIVELY INVOLVED IN RESPONSE

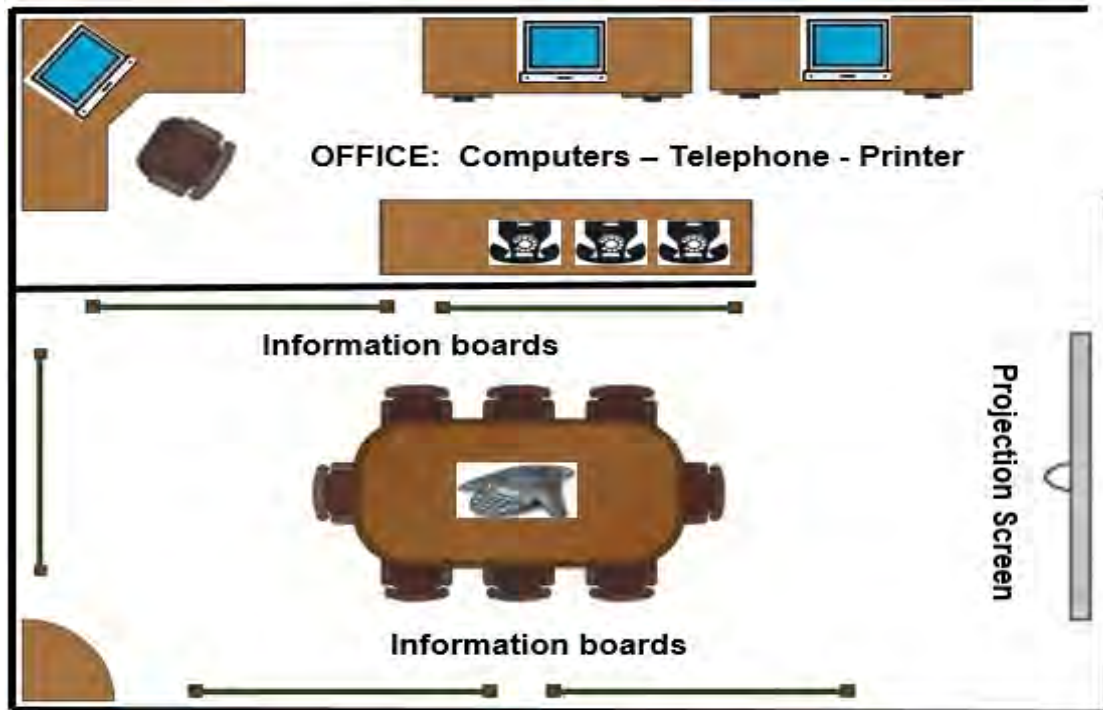
RESPONSIBILITIES	<ul style="list-style-type: none"> • State of preparedness in the event that oil moves into its area of responsibility. • If required providing resources to the SEA-PT response team • Liaison with Oil Spill Response Committee/Coordinator • Involvement in post-incident reviews • Following post-incident review, if appropriate revise oil spill contingency plans 	
STEP	ACTIONS	ADDITIONAL INFORMATION
ALERT	<ul style="list-style-type: none"> <input type="checkbox"/> Alert oil spill response personnel within own organisation <input type="checkbox"/> Alert oil spill contractors 	
INITIAL ACTIONS	<ul style="list-style-type: none"> <input type="checkbox"/> Have ready oil spill documentation including own oil spill contingency plan, Shannon Estuary Ports Oil Spill Contingency Plan, contact lists etc. <input type="checkbox"/> Prepare oil spill equipment (if applicable) <input type="checkbox"/> Contact Coordinator and confirm state of preparedness 	
FURTHER ACTIONS	<ul style="list-style-type: none"> <input type="checkbox"/> Maintain state of preparedness <input type="checkbox"/> Provide resources to the response team if required 	

	<input type="checkbox"/> Maintain liaison with Oil Spill Committee & Coordinator to follow the progress of the response	
FINAL ACTIONS	<input type="checkbox"/> Attend the debrief <input type="checkbox"/> Implement recommendations from the incident report. <input type="checkbox"/> Revise oil spill contingency plan	

Setting up and running a control room

The control room is an important place in the wildlife operations. It must be set up as an integrated part of the overall spill management, so that decisions can be made overseeing all the relevant information on both sides.

An example of the physical set-up of the control room is illustrated below.



Command Centre Equipment

Office	Meeting Room
Desk(s) and Chairs	Meeting table and chairs
Office consumables (paper, pens, tape, Stapler, hole punch)	Wall displays (empty walls)
Computer	Flip chart with paper and pens
Internet Connection – Wi-Fi	Whiteboard with pens and cleaner
Telephone land lines	Projector
Fax/Printer/Copier	Projector screen

Contents of Wall Displays

Heading	Information presented (printed files or hand written on flip chart sheets)
Spill History	The source of oil, date of spill, exact location, oil type, amount and properties, future issues and contact information for the spill advisor
Species information	Information on species affected, habitat, distribution, identification photos, life history, previous oil spill knowledge (post release survival data) and care/washing information if available
Rehabilitation Process	Description of process (with photos), triage policy and euthanasia policy
Key Facts (Media)	Media lines, bird numbers (overview), news articles
Training Program	List of roles and trainers (with photo) for allocation of trainees
Maps	Showing oil spill area, sensitive areas, collection points and rescue facilities
Facility layout	Room plan and copy of health and safety protocols
Team information	Name, organization, role and contact number with coordinators highlighted (can be arranged by organization or by role)
Facility Operations	Lists the number of birds in each part of the facility, updated twice daily. It helps to include a list of daily tasks, which can be ticked off when complete.
Field Operations	Shows who is in the field, their role and contact information, updated twice daily
Equipment requests	Central point for gathering requests, highlight if urgent, to be checked daily

Arrangements when setting up a Spill Response Control Base in Foynes/Tarbert/Kilrush

To be arranged by local contact/representative before team arrives:

- Hotel and catering facilities
- Office space with computers etc. and access to telex machine and telephones (2 lines minimum)
- Secretarial assistance
- Interpreters (if necessary)
- Supply of fuel for vehicles, helicopters and other aircraft
- Supply of chemicals

To be hired when team arrives:

- Vehicles
- Helicopter
- Fixed wing aircraft if necessary
- Boats

Functions to be established as soon as possible:

- Government/local authority liaison
- Public relations
- Ecology advice
- Manpower recruiting
- Log Keeping

Control Bases can be set up in the following sites:

#	Control Base	Address	Tel
1	Limerick	Limerick Cargo Handling, Ted Russell Dock , Limerick	061 312733
2	Foynes	SFPC, Harbour Office, Foynes	069 73103
3	Kilrush	ESB Moneypoint Generating Station, Kilrush, County Clare	065 9051652
4	Aughinish	AAL, Aughinish, Askeaton, Co. Limerick	061 604000
5	Tarbert	SSE Generating Station, Tarbert, Co. Kerry	068 36156

Agenda for Tactical Meeting

Tactical Meeting Agenda	
Facilitator – Planning Section Chief	
Duration – 1 hour	
1	Bring meeting to order
2	Roll call
3	<p>Situation briefing and developments</p> <p>Spill – control and containment:</p> <ul style="list-style-type: none"> a. Source control (contained) b. Spread of oil and forecast modelling c. Oil combat at sea (activities and success) d. Shoreline protection (where?) e. Shoreline Clean-up (where/) <p>Wildlife Threats:</p> <ul style="list-style-type: none"> a. Sensitivities in the track of the oil b. Which species in the area, which species expected, how many? c. Casualties observed or found? d. Protection, pre-emptive capture, search and collection
4	Review of current Objectives
5	Review of current Strategies and Tactics
6	Review/modify work plans and assignments
7	Review operational resources and organization
8	Health and Safety issues
9	Environment issues
10	Logistics update
11	Plan for next operational period
12	Time and location of next meeting

Oil Spill Management Checklist

Oil Spill Response Management Checklist	
General	
<ul style="list-style-type: none"> ▪ Carry out initial actions and notifications ▪ Active Response Team ▪ Set-up Command Centre ▪ Briefings – Ensure regular briefings to update relevant people, including Public Relations staff ▪ Event log – keep a strict log of events, communications, personnel, equipment ordered ▪ Liaise – get advice from relevant experts – environmental and technical ▪ Prioritise areas for clean-up ▪ Access – liaise with landowners for necessary clearances and keys ▪ Locate and acquire necessary clean-up equipment and personnel ▪ Define waste storage and disposal requirements and locations ▪ Initiate Wild-life and oiled bird clean-up ▪ SitReps – provide regular updates to all appropriate stakeholders ▪ Communication Media and Public – prepare press statements and conferences briefings. Provide communications guidance to response personnel 	
Personnel and Logistics	
Safety	<ul style="list-style-type: none"> ▪ All personnel must be fully briefed in safety matters and have necessary training and certifications ▪ Safety and First Aid Equipment available ▪ Provide PPE ▪ Hygiene facilities – toilets and cleaning areas
Transport	<ul style="list-style-type: none"> ▪ Method ▪ Visa and immigration procedures
Equipment	<ul style="list-style-type: none"> ▪ On-site training (e.g. VHF radios, all-terrain vehicles)
Accommodation	<ul style="list-style-type: none"> ▪ Shelter from cold/heat/rain/snow ▪ Overnight sleeping accommodation
Food and Drink	<ul style="list-style-type: none"> ▪ Maintain supply – address dietary requirements
Equipment and Logistics	
Transportation	<ul style="list-style-type: none"> ▪ Road – lorries with tail lifts, rough terrain vehicles ▪ Sea – refer to annexes ▪ Air – large aperture doors ▪ Customs and documentation
Equipment Storage	<ul style="list-style-type: none"> ▪ Security
Equipment Maintenance	<ul style="list-style-type: none"> ▪ Workshop facilities ▪ Cleaning areas ▪ Spare parts must accompany equipment

CHAPTER 4

RISK ASSESSMENT

Issue
2

Date
Oct 2023

Status
For review

Page No
64

4 Risk Assessment

Introduction

This Risk Assessment represents a qualitative and semi-quantitative assessment of the risk of an oil spill within the Shannon Estuary within the jurisdiction of SFPC. It focusses on the resources at risk, potential contributors to a spill/release, likely scenarios and the strategies and tactics which may be employed to control and mitigate the impact of an incident.

Specifically, this Risk Assessment evaluates the risk of oil spills during marine operations and commercial and other industrial activities, while also considering major pollution events affecting the Shannon Estuary from SEAPT members. It also considers the contribution of natural events hazards to spill risk and escalation and the subsequent potential effects on human and other sensitive resources, particularly in areas of high environmental sensitivity, including designated high consequence areas such as Special Areas of Conservation (SAC) and Special Protection Areas (SPA) as designated under European Union Regulation.

Additional effects on public health and safety that could occur during a spill incident are also considered.

Purpose of Risk Assessment

The purpose of this Risk Assessment is to:

- Provide a conservative range of incident scenarios that may result in a release of hydrocarbons and/or other hazardous and noxious substances into the marine environment.
- Provide an evaluation of potential risk (likelihood x consequence) of such incidents occurring.
- Provide an overview of the local environment and potential areas and resources at risk.
- Provide SFPC a basis for the development of emergency response plans, including, but not restricted to, this Oil/HNS Spill Contingency Plan.

SFPC expectation is that a major spill within the Shannon Estuary is not likely to occur. Incident scenarios have been identified and are provided as a conservative framework to ensure decisions are based on knowledge of the potential range of events and effects, as well as allowing SFPC to prepare for the worst-case scenarios in its emergency response preparations as required by applicable regulations and its prevailing duty of care.

Environmental Landscape – Risk Areas and Sensitivity

Physical Environment

The Shannon Estuary is the largest Estuary in Ireland, stretching approximately 80 km from Limerick City to the open sea at Loop Head. The tidal range in the Estuary is greater than that on the neighbouring open coastline. The mean range is approximately 3.6 - 4.0 metres on spring tides and 1.5 - 1.8 metres on neap tides. Maximum tidal velocities occur in the narrower parts of the Estuary, reaching 2.5 metres per second in the tidal race north-east of Tarbert Island.

A full environmental and sensitivity assessment is contained in the “Shannon Estuary Oil Spill Sensitivity Maps and Clean-up Guidelines”, OPRU /40/97, March 1998. The full report is included in web-based Oil/Chemical tracking and GIS Model.

The Estuary may be divided into three main regions: the inner mud flats of the Rivers Shannon and Fergus which meet in the area between Aughinish Island and Killadysert; the central narrows between Foynes and Tarbert; and the outer Estuary from Tarbert to Loop Head. These divisions largely reflect the underlying geology which also influences the shoreline habitats, flora and fauna of the Estuary.

The Sensitivity Assessment further divides the Three Region into Eight Sections (A to H) as shown in the location map below. The document describes in detail the environmental risk and sensitivities. The following provides an overview.

Nature conservation

The entire Shannon Estuary is of major importance for nature conservation and has been designated as a SAC. A large section of the inner Estuary is also a designated SPA, mainly due to its importance for wintering birds. This area (combining the Shannon and Fergus estuaries) is the largest continuous stretch of mud flats in Ireland and contains a large number of islands.

Several other smaller, sheltered mud flat areas in the outer Estuary are also covered by the SPA designation. These combined areas hold the largest concentration of wintering birds in the Republic of Ireland. Peaks of over 70,000 wildfowl and waders have been counted in recent years with some six-species present in internationally important numbers. The total number of birds using the Estuary is probably much higher as many more pass through the area in spring and autumn migration.

The Shannon Estuary holds the only known resident population of bottle-nosed dolphins (*Tursiops truncatus*) in the Republic of Ireland. It is estimated the group/pod contains 56-68 mammals of which at least 30 individuals are regularly sighted.

Lower River Shannon SAC (Site Code 002165)

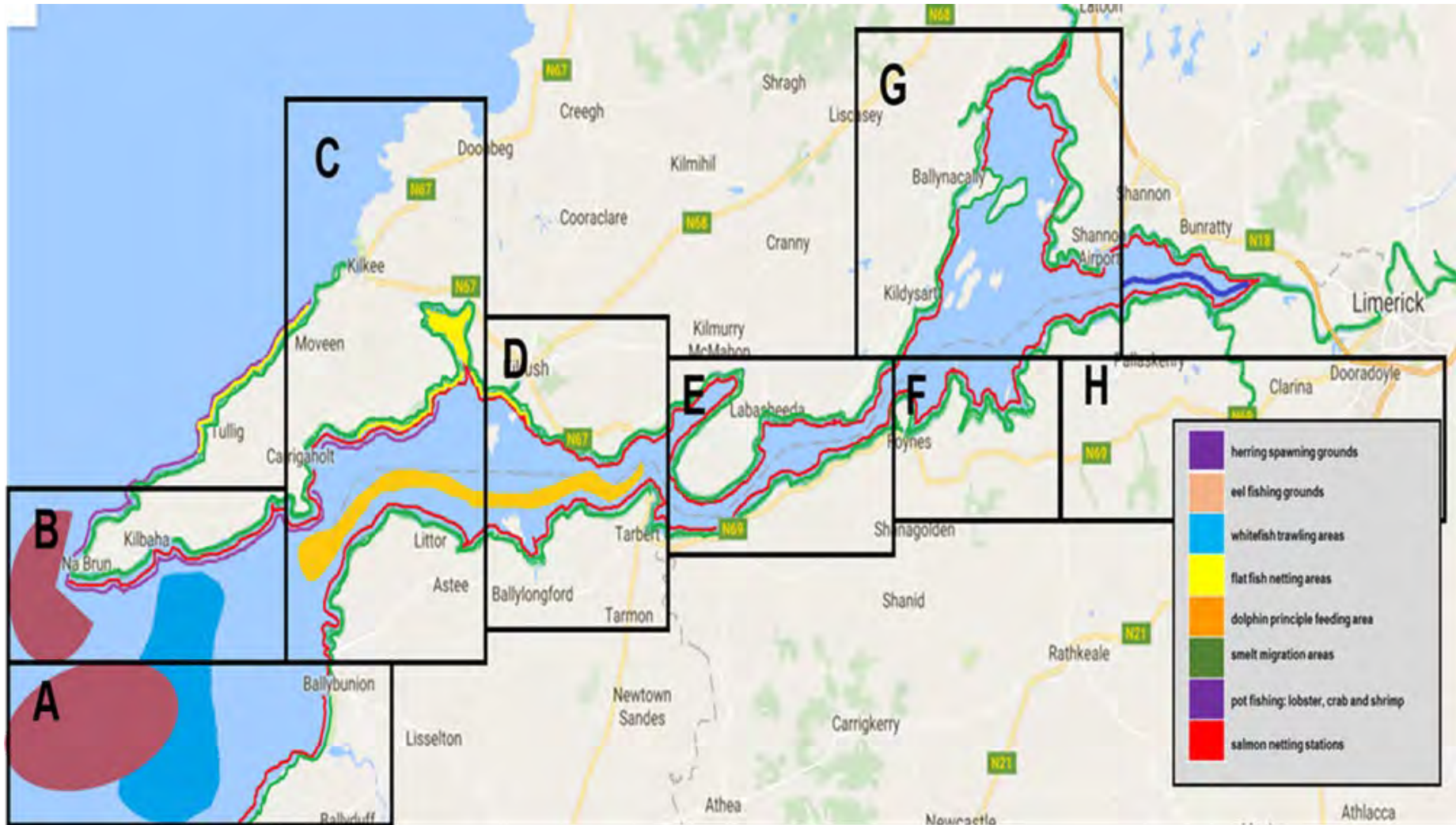
The Lower Shannon SAC stretches along the Shannon valley and estuary from Killaloe to Loop Head and Kerry Head, a distance of some 120 km. The site includes the Shannon Estuary and the Fergus Estuary, the intertidal areas of both estuaries, the navigable part of the Shannon, and the fully marine area between Loop Head and Kerry Head.

The Shannon and Fergus Estuaries form the largest estuarine complex in Ireland, extending from the upper tidal limits of the Shannon and Fergus Rivers to the mouth of the Shannon estuary (considered to be a line across the narrow strait between Kilcredaun Point and Kilconly Point).

The Lower Shannon SAC has been designated because of the presence of lagoons and alluvial wet woodlands, tidal mudflats, Atlantic and Mediterranean salt meadows, *Salicornia* mudflats, sand banks, perennial vegetation of stony banks, sea cliffs, reefs and large shallow inlets and bays – of these habitats being listed in Annex I of the E.U. Habitats Directive. Saltmarsh vegetation also occurs around a number of lagoons within the site.

Species of conservation importance which occur in the SAC include Bottlenose Dolphin, Sea Lamprey, River Lamprey, Brook Lamprey, Freshwater Pearl Mussel, Atlantic Salmon and Otter – all of which are listed in Annex II of the same Directive.

Shannon Estuary Sensitivity Map: Fisheries and Cetaceans



River Shannon & River Fergus Estuaries SPA (Site code 004077)

This important wildlife conservation site comprises all of the estuarine habitat west from Limerick City, south from Ennis and extending eastwards as far as Killadysert and Foynes on the north and south shores respectively of the River Shannon (a distance of some 25 km from east to west). Also included are several areas in the outer Shannon estuary, notably Clonderlaw Bay and Poulnasherry Bay, as well as the intertidal areas on the south shore of the Shannon between Tarbert and Beal Point.

The site has vast expanses of intertidal mudflats which provide a rich food resource for wintering birds. It is the most important coastal wetland site in the entire country, and regularly supports in excess of 50,000 wintering waterfowl, a concentration of birds that is of international importance.

This Special Protection Area supports internationally important populations of Dunlin, Blacktailed Godwit and Redshank; along with a further 16 species, the populations of which are of national importance. The site provides both feeding and roosting areas for the wintering birds, and large numbers of some species also pass through the site while on migration in spring and/or autumn.

This SPA is of great ornithological interest, and the bird populations are vulnerable to pollution by floating oil, especially when large numbers gather for feeding on the open water near the coast, or on the intertidal mud flats and sand flats. The discharge of any non-biodegradable or long-lived toxic substances would also expose the bird populations to the risk of contamination through the food web.

Shoreline habitats

In addition to the mud flats, the Fergus Estuary and the south (Limerick) shore of the Shannon Estuary contain extensive areas of saltmarsh. Much of this is dominated by the introduced common cord grass (*Spartina anglica*) and considerable parts have been reclaimed for agriculture in the past. Most of the inner Shannon and Fergus estuaries are surrounded by sea walls built in the 19th Century to prevent flooding of the low-lying land behind. West of Foynes, most of the Estuary shorelines are comprised of shingle or rock near high tide and finer muds near low water mark. There are a few sandy beaches, the most important of which are around Beal Point and at Ballybunnion on the south shore. Significant cliffs occur at Loop Head and Kerry Head as well as north of Ballybunnion.

Fisheries and aquaculture

The Shannon Estuary is of major importance for fisheries. It is the thoroughfare for migratory salmon and trout entering Ireland's largest river catchment. Salmon netting takes place during summer in all sections of the Estuary, except the Mouth of the Shannon. This outer part of the Estuary is an

important spawning ground for herring and is used for whitefish trawling. Pot fishing for lobster and crab is also widespread in the outer Estuary. In both the inner Shannon and Fergus estuaries, eel netting is carried out while a rare fish species, the Smelt, occurs in the Shannon near Limerick. Aquaculture is increasing in importance with extensive areas devoted to oyster culture, especially between Kilrush and Carrigaholt, Co. Clare and around Ballylongford, Co. Kerry.

Recreation and amenity

Shore angling is carried out mainly from headlands and rocky shores in the outer Estuary while deep sea angling is available from boats based at Kilrush. Only the outer Estuary has popular sandy beaches, the most significant being those at Ballybunnion where there is a major golf links on the dunes. The beaches are used by holiday makers for swimming and surfing in the summer months. The outer Estuary is scenically attractive with some fine coastal landscapes. Various water sports, including sailing, wind-surfing and sub-aqua diving, are carried on from the new marina at Kilrush Creek. There are also small sailing clubs at Tarbert and Foynes. A recent tourist venture has been the development of dolphin-watching boat trips from both Kilrush and Carrigaholt. Bird watching is also increasing in popularity although there are no specific facilities provided for this leisure activity.

Industry and shipping

The Shannon Estuary contains several large industrial developments including plants at Aughinish Island and Askeaton and major ports at Foynes and Limerick Dock.

Ports along the Estuary handle the largest dry bulk vessels currently entering Irish waters. Ships of over 180,000 dead weight tonnes regularly offload cargoes in the Estuary ports. On average 900 bulk vessels use the Estuary annually and a total of over 750,000 tonnes of oil is imported through the Shannon Estuary annually.

There are two large Electricity Generating stations at Money Point, County Clare and Tarbert, County Kerry in the outer part of the Estuary. The Tarbert plant is in the process of decommissioning. Money Point plant is a coal-fired power generation plant with a facility for Heavy Fuel Oil back-up. Each plant has a cooling water intake from the Estuary. ESB Moneypoint are studying the feasibility of a changeover to HFO for all boilers in the next 3-4 year period with additional storage in the order of 50,000 tonnes being required. The project will see a significant increase in volumes of HFO being imported.

Shannon Airport has a shipping jetty on the Estuary for the import of aviation fuel. This is a dedicated berth that serves an average of 17/18 vessels annually. Jet A1 is the only product handled at this facility.

In addition to oil-based products, derivatives and fuels carried and contained in vessels, a significant quantity of products are stored at various locations along the Estuary.

LOCATION	TYPE AND QUANTITY OF OIL / FUEL
NORA Tarbert	163,000 tonnes (Kero 40K, Gas Oil/ Diesel 123K)
NORA Foynes	10.756 tonnes Kerosene
Tarbert SSE	HFO storage decommissioned
Foynes AFSC	80,249 tonnes (CI1 11.5K, CI2 56.2K, CI3 12.5K)
Shannon SAF	35,413 tonnes (Aviation fuel)
Money Point ESB	50,000 tonnes HFO
Rusal Aughinish	Capacity for 50,000 tonnes – not currently held.

Responsibility to Protect the SAC and SPA

European and national legislation places a collective obligation on Ireland and its citizens to maintain at favourable conservation status sites designated as SACs and SPAs. The Government and its agencies, and especially the local authorities, are responsible for the enforcement of regulations that will ensure the ecological integrity of these sites.

Risk Assessment Summary

Approximately 1 million tonnes of hydrocarbon fuels are imported through the Shannon Estuary each year. On top of this all vessels entering and leaving the area will carry bunker fuel to power their engines. In some cases, the amount of bunker fuel carried, i.e. a cape size vessel of about 170,000 tonnes dwt, will be more than the average cargo of fuel through the Estuary. There is also the threat from vessels passing through the area of responsibility en-route to their final destinations. This is an unquantifiable threat but significant when considering the actual threat to the area.

Vessels entering the Shannon Estuary are required at times to anchor at Scattery Island to await suitable tide or availability of berth. This build-up of shipping in the lower Estuary makes this an area of high risk. The location of Moneypoint and Tarbert also close to the anchorage area at Scattery extends the area of high risk from Kilcreaune Head to Tarbert Race. Further upriver at Aughinish and

its neighbour Foynes Port is considered of high risk due to the number of ship movements in the area and the amount of oil destined there.

From Shannon Airport to Limerick the risk is much reduced due to the smaller ship sizes, types of oil carried and lower ship movements. Limerick Dock is low risk due to the fact that the tidal gates will contain the threat and confine it.




Incident Scenarios

Based on the information précised above, a number of potential incident scenarios have been developed. These have been assessed against the risk management criteria set out in the SFPC Environmental, Health and Safety procedure 004 *Risk Assessment*. These are contained within the Shannon Marine Emergency Plan.

The risk of the occurrence of each scenario is assess before and after control and mitigation measures have been taken. The overall objective where risk levels are unacceptable is to identify and implement appropriate controls to reduce the risk levels to **As Low As Reasonably Practicable (ALARP)**. The following table details for the result of the assessment.

Incident scenarios with a residual (post application of control measures) risk ranking of Medium or above require specific emergency response and mitigation measures to be identified and documented, with suitable and sufficient resources made available for ensure response capability.

Risk Matrix

Consequence		Likelihood				
		A	B	C	D	E
Severity Rating						
Environmental and Socioeconomic		Remote	Extremely Unlikely	Very Unlikely	Unlikely	Likely
1	Low		12,13			
2	Minor		11,14			
3	Moderate	1,3,4,5,6,7,8,9,10				
4	High					
5	Extreme	2				
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  = Acceptable </div> <div style="text-align: center;">  = Tolerable </div> <div style="text-align: center;">  = Intolerable </div> </div>						

Major release events:

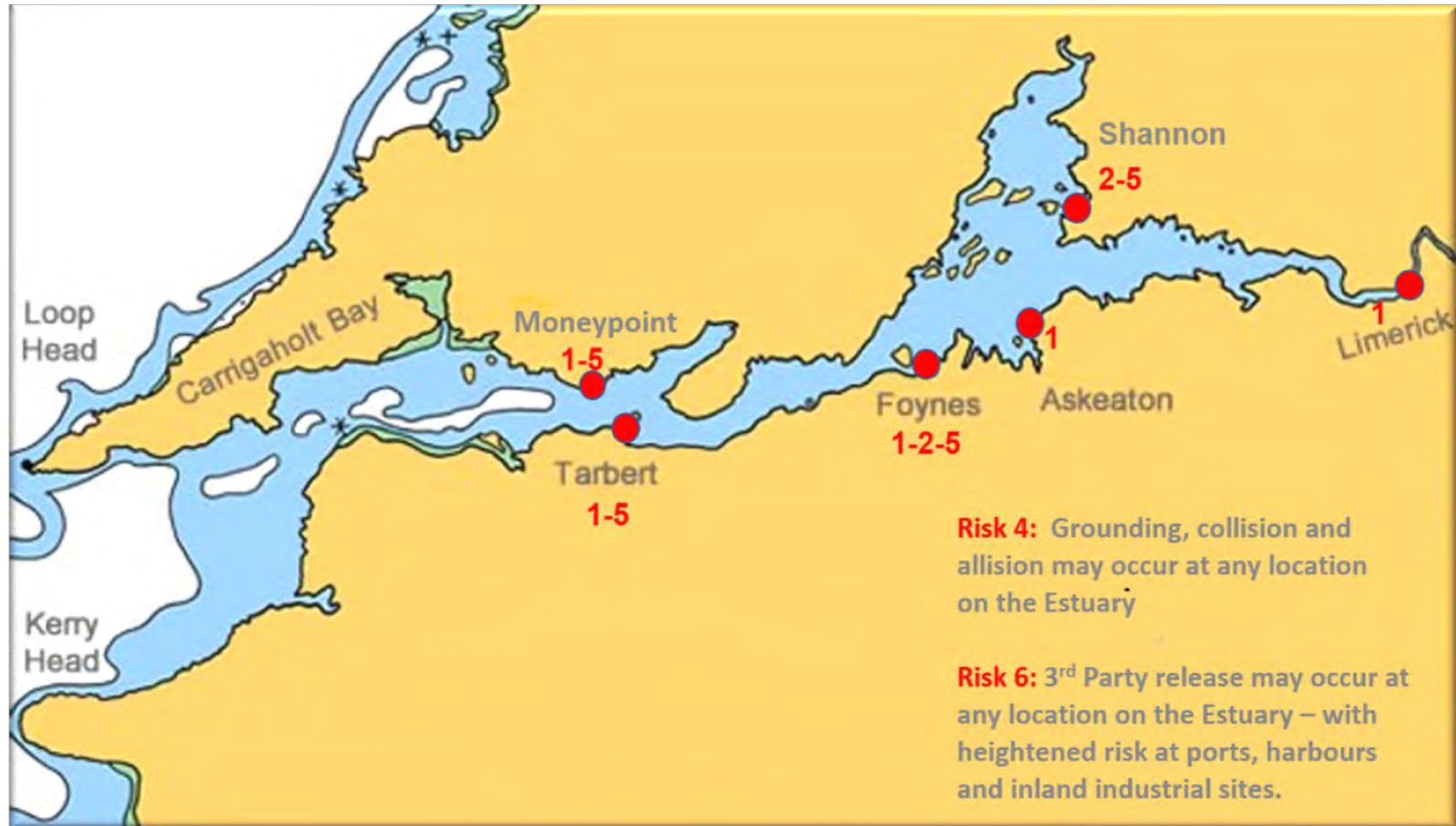
	Source	Event	Product	Volume	Impact	Prevention Measures	Response Strategies	Tier
1	Moneypoint - HFO Discharge	Rupture / pipeline failure	HFO	Various spill volumes >5000lts	Dependent of volume it will migrate into surrounding marine area with possible shoreline impact.	Ship-to-Shore checklist. Maintenance Regime. Operation monitored 24/7. Spill Kit in place.	Make notifications Liaise with SFPC HM Deploy T1 equipment to contain and recover oil If oil is likely to impact shore develop appropriate response strategy	1/2
2	Lower Estuary – bunker fuel	Collision / Grounding at anchorage and approaches to Estuary	ULSD	Various spill volumes >5000	Dependent of volume it will migrate into surrounding marine area with possible shoreline impact.	Pilotage District. Designated Anchorages. Safeseas portal to advise of defects. PBC monitor arrivals.	Make notifications Liaise with SFPC HM Deploy T1 equipment to contain and recover oil If oil is likely to impact shore develop appropriate response strategy	1/2
3	3 rd Party Release from shore-based sources	Release into Rivers then Estuary.	Various Oil/HNS	Various >500lts	Dependent of volume. Product may migrate along source rivers into estuary	Early notification from involved party and/or Local Authority	Early deployment of sorbent booms to contain release to river area. Shoreline protection	1

					and impact shoreline			
4	Tarbert – Diesel/Kerosene release	Pipeline failure – loading/discharge	Kerosene	Various >5000lts	Dependent of volume it will migrate into surrounding marine area with possible shoreline impact.	Ship-to-Shore checklist. Maintenance Regime. Operation monitored 24/7. Spill Kit in place.	Make notifications Liaise with SFPC HM Deploy T1 equipment to contain and recover oil If oil is likely to impact shore develop appropriate response strategy	1/2
5	Shannon Jetty – Jet A1 release	Pipeline/loading arm failure	Jet A1	Various >1000lts	Dependent of volume it will migrate into surrounding marine area with possible shoreline impact.	Ship-to-Shore checklist. Maintenance Regime. Operation monitored 24/7. Spill Kit in place.	Make notifications Liaise with SFPC HM Deploy T1 equipment to contain and recover oil If oil is likely to impact shore develop appropriate response strategy	1/2
6	Foynes Port – all grades	Pipeline/loading arm failure (AFSC terminal)	ULSD / Petrol / Kerosene	Various >1000lts	Dependent of volume it will migrate into surrounding marine area with possible shoreline impact.	Ship-to-Shore checklist. Maintenance Regime. Operation monitored 24/7. Spill Kit in place.	Make notifications Liaise with SFPC HM Deploy T1 equipment to contain and recover oil If oil is likely to impact shore	1/2

							develop appropriate response strategy	
7	AAL - Bunkering spillage – road tanker	Failure of pipeline / over-topping	ULSD	Various 500lts	Dependent on volume. Oil enters marine environment and spreads.	Operation procedures. Bunded areas. Local isolation switch. Operator training.	Make notifications. Deploy sorbent booms for containment.	1
8	Foynes Port – Bunkering of Tugs	Failure of pipeline / over-topping	ULSD	Various 500lts	Dependent on volume. Oil enters marine environment and spreads.	Operation procedures. Bunded areas. Local isolation switch. Operator training.	Make notifications. Deploy sorbent booms for containment.	1
9	Limerick Dock – Bunkering	Failure of pipeline / over-topping	ULSD	Various 500lts	Dependent on volume. Oil enters marine environment and spreads.	Operation procedures. Bunded areas. Local isolation switch. Operator training.	Make notifications. Deploy sorbent booms for containment.	1
10	Approaches to Limerick – Bunker Fuel spillage	Grounding / Rupture	ULSD	Various >5000	Dependent of volume it will migrate into surrounding marine area with possible shoreline impact.	Vessel under pilotage. Tide Tables dictate UKC. Arrival/departure times as per HM.	Make notifications Liaise with SFPC HM Deploy T1 equipment to contain and recover oil If oil is likely to impact shore develop appropriate response strategy	1/2
11	Tarbert – Bund Failure	Rupture and release into Estuary	Kerosene / Diesel	Various >100lts	volume. Oil enters marine environment	Tanks have monitoring and inspection regime. Bunds in place.	Make notifications Liaise with SFPC HM	1/2

					and migrates / impacts shoreline	Monitored etc	Deploy T1 equipment to contain and recover oil If oil is likely to impact shore develop appropriate response strategy	
12	Shannon Estuary various locations spill from leisure craft.	Incident involving bunkering / collision of leisure craft.	Disel / gasoline	Various >500lts	Dependent of volume it will migrate into surrounding marine area with possible shoreline impact.	standard bunkering procedures. Irish Sailing Association guidance. Marina SOP's	Make notifications. Deploy sorbent booms if available. Monitor and evaluate.	1
13	Urban areas / Limerick City – major flooding resulting in oil/HNS release	Release of oil/HNS from storage tanks, drainage systems etc. during flooding. .	Disel / gasoline / HNS	Various worst case >20k lts.	Dependent of volume it will migrate into surrounding marine area with possible shoreline impact.	Flood mitigation Storage regulations. Drainage containment systems	Make notifications. Deploy sorbent booms if available. Monitor and evaluate. Develop appropriate response strategies.	2
14	Agricultural runoff (HNS)	Runoff of fertilisers, surray incorrectly applied.	HNS	Unknown.	Dependent of substance Decreased water quality affecting BOD.	Fertiliser application guidance EPA regulations	Notifications Use of sorbents in appropriate Notify specialist contractor Monitor and evaluate.	2

Incident Scenario Locations:



CHAPTER 5

TRAINING AND EXERCISE REGIME

Issue
2

Date
Oct 2023

Status
For review

Page No
78

5 Training and Exercise Regime

Introduction

SOP 5, Section 6 of the National Oil/HNS Contingency Plan sets out the requirements for training and exercises. This chapter describes how SFPC and its mutual aid partners SEAPT comply with these requirements.

It is essential that SFPC, together with its mutual aid partners within SEAPT, are familiar with this plan and have the necessary knowledge, skills, experience and competence in order to respond capability and effectively to a spill incident and fulfil their assigned role. Capability and competence comes through the provision of information, instruction, training, and practice and needs to cover:

- Understanding of risk – both environmental and response.
- Incident Management and Command.
- Response strategies, tactics, and equipment deployment.
- Shoreline Clean-up and Assessment Techniques.

To ensure capability and competence of those managing and responding to spill incidents SFPC and its mutual aid partners in SEAPT provide annual training and exercises.

Training

SFPC and SEAPT set out an annual calendar of training for personnel that takes a multi-year view to take account of refresher and renewal requirements, as well as the change of staff and personnel.

Course covered included:

Course
OPRC OSR Operations Staff (IMO 1 Equivalent)
OPRC OSR Supervisors and On-Scene Commanders (IMO 2 Equivalent)
SCAT Personnel
IMO HNS Operational Level (First Responders, Supervisor and On-Scene Commander.
ICS 100 Introduction to ICS
ICS 200 Applying ICS
ICS 300 Incident Command System for Managers

In addition to training courses provided internally, SFPC and SEAPT take full advantage of the programs delivered at national level by IRCG.

Training records are maintained by SFPA and SEAPT partners.

Exercises

Exercises are undertaken in order to build on and test the knowledge gained during formal training programs.

The table below shows the type, nature and frequency of exercises to be undertaken by SFPC and SEAPT. The actual timetable for exercise is developed and reviewed on an annual basis and is available from the SFPC Harbour Master as a live document.

Exercise Type	Purpose	Frequency
Communication/ Notification	Used to test the alert and call-out procedures for response. This can be an announced or unannounced exercise.	Six Monthly
Mobilisation and Deployment	Used to test the real-time mobilisation of personnel and equipment. Can be announced or unannounced and may be incorporated with communication/notification or live play exercise.	Annually
Table-top	Used to test Incident Management knowledge and capability. Can also incorporate training on incident management and response. The complexity and duration of the table-top should be varied in order to balance learning with practice with more challenging scenarios.	Annually
Live play	Live-play exercises are intended to replicate actual response and deployment to identified scenarios. The exercises should be designed to link Incident Management with response activities. Exercises may be designed to test different phases on an incident response e.g. mobilisation or deployment or specific response requirements or environments. The annual Live Plan exercise, generally takes on a Multi-Agency approach.	Annually
Multi-agency	These exercise are designed to test the capability of multiple agencies to respond, in a coordinated manner, to a major incident. They will link local response with multi-agency and PRA incident management at local and regional levels., through the PRA Local Coordination Centre.	Every 3 Years

CHAPTER 6

SHORELINE CLEAN-UP TECHNIQUE

SCAT

Issue
2

Date
Oct 2023

Status
For review

Page No
81

6 Shoreline Clean-up Assessment Technique (SCAT)

When spilled oil contaminates shoreline habitats, responders must survey the affected areas to determine the appropriate response. The following section follows the guidance provided in the

[Shoreline Assessment Manual 4th edition. \(noaa.gov\)](#).

Although general approvals or decision tools for using shoreline clean-up methods can be developed during pre-spill planning stages, specific responses and treatment recommendations must integrate field data on shoreline habitats, oil type, degree of shoreline contamination, spill-specific physical processes, and ecological and cultural resource issues. Clean-up endpoints must be established early so that appropriate clean-up methods can be selected to meet the clean-up objectives.

Shoreline Clean-up Assessment Technique (SCAT) process is a systematic approach to collect real-time data on shoreline oiling conditions to support decision-making for shoreline clean-up. SCAT:

- Is flexible in terms of scale of the survey and detail of the data sets collected
- Is multi-agency, with trained representatives from all stakeholders, who have authority to make decisions
- Provides a clear organizational framework that links the SCAT process to both clean-up decision-making and logistical coordination

The SCAT process can be easily modified to fit the spill conditions. It should be as simple as possible, yet comprehensive enough to address all the issues and concerns of shoreline clean-up. It must not be a slow, cumbersome process that keeps decision-makers waiting for key data.

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.

SCAT may be divided into two processes: prior to a spill occurring or impacting the shoreline and secondly for once a spill has occurred. In both cases the key considerations should be:

- Potential for human exposure, either by direct contact or by eating contaminated seafood
- Extent and duration of environmental impacts if the oil is not removed
- Potential for remobilized oil to affect other sensitive resources
- Likelihood that clean-up could cause greater harm than the oil alone.

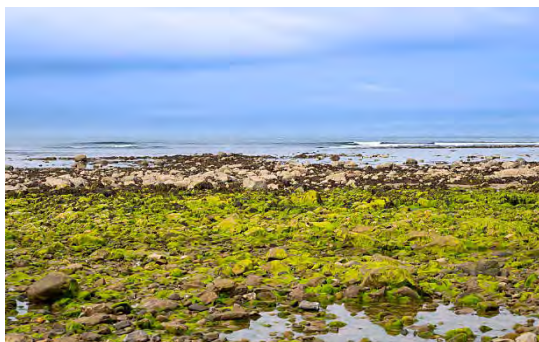
The Shannon Estuary – Shoreline Types

As described in Chapter 4, the Shannon Estuary comprises of a risk and diverse environment, including the Shannon and River Fergus SPA, the Lower Shannon SAC, sensitive shoreline habitat, fisheries and aquaculture and recreational and leisure activities. This leads to a wide range of shoreline type, shown in the table below:

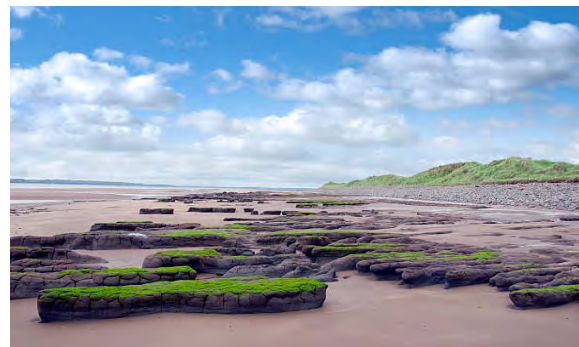
Type	Description	Type	Description
1A	Exposed rocky shore	8A	Sheltered scarps in bedrock, mud or clay and sheltered rocky shore
1B	Exposed, solid man-made structures	8B	Sheltered, solid man-made structures
1C	Exposed rocky cliffs with boulder talus base	8C	Sheltered riprap
2A	Exposed wave-cut platforms in bedrock, mud, or clay	8D	Sheltered rocky rubble shores
2B	Exposed scarps and steep in clay	8E	Peat Shorelines
3A	Fine to medium-grained sand beaches	9A	Sheltered tidal flats
3B	Scarps and steep slopes in sand	9B	Vegetated low banks
4	Coarse-grained sand beaches	9C	Hypersaline tidal flats
5	Mixed sand and gravel beaches	10A	Salt and brackish water marshes
6A	Gravel beaches (granules and pebbles)	10B	Freshwater marshes
6B	Riprap structures and gravel beaches (cobbles and boulders)	10C	Swamps
7	Exposed tidal flats		

As categorised by NOAA Shoreline Assessment Manual.

SEAPT have maintain a comprehensive library of pre-incident photographs contained in **Tactical Response Cards**. These TAC's identify potential spill events and response tactics.



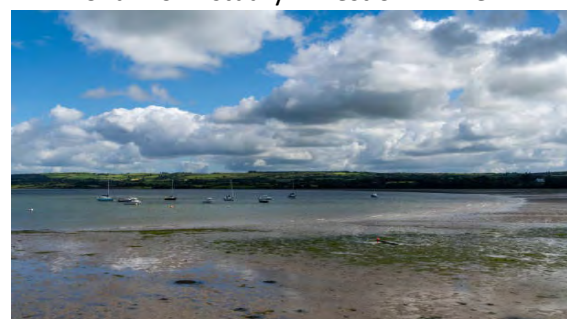
Shannon Estuary – Ballybunioun



Shannon Estuary – west of Killimer



Tarbert NORA Terminal

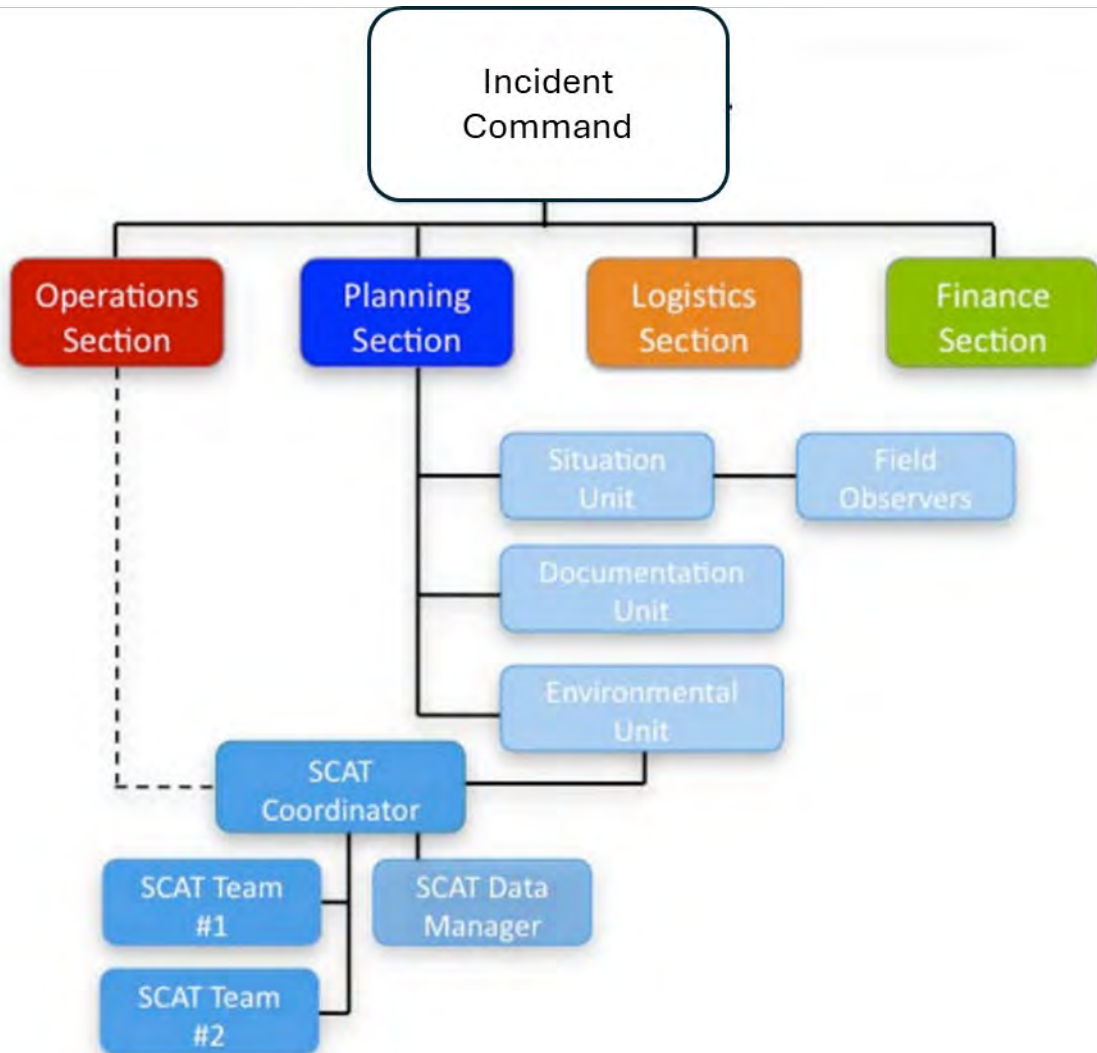


Tarbert Harbour

Examples of Shannon Estuary shoreline environment.

SCAT Teams

The SCAT Team forms part of the Planning Section and sits within the Environmental Unit. It also has a reporting line into the Operations Section, working alongside response units.



As SCAT Teams represent the “eyes and ears” of the Unified Command in the field, they have the following responsibilities:

- Describe shoreline types, oiling conditions, and physical setting Identify sensitive resources (ecological, recreational, cultural)
- Determine the need for cleanup
- Recommend shoreline cleanup methods and endpoints:
 - Specify generic and site-specific constraints for cleanup activities

- Determine the need for follow-up surveys if archaeological and cultural resources are present
Establish cleanup priorities
- Identify safety concerns for cleanup operations
- Monitor cleanup effectiveness and effects, suggesting changes where needed Determine when cleanup operations are no longer effective
- Conduct post-cleanup inspections before sign-off
- Teams must answer these questions:

Is cleanup necessary at this segment?

Which cleanup methods are appropriate or recommended? Which constraints are needed to protect sensitive resources?

- What is the priority for cleanup at this segment?
- Are cleanup operations being conducted properly?
- Is the cleanup method no longer effective, or causing collateral damage?
- Do we need to try another method?
- Does the segment meet the cleanup endpoints?

SCAT data need to be collected efficiently, and the results provided to the Command in a timely manner.

The SCAT team is made up of:

SCAT Coordinator - Serve as the primary point of contact for all SCAT activities, both at the Incident Command Post and in the field,

Team Lead – Each SCAT team will have a leader who main responsibility is to ensure teams have the necessary information and resources to carryout the assessment in line with the overall plan. They oversee team activities and assist the coordinator in collating and assessing information gathered, making recommendation as to response tactics and future SCAT survey requirements and locations.

Team Member - undertake SCAT assessments.

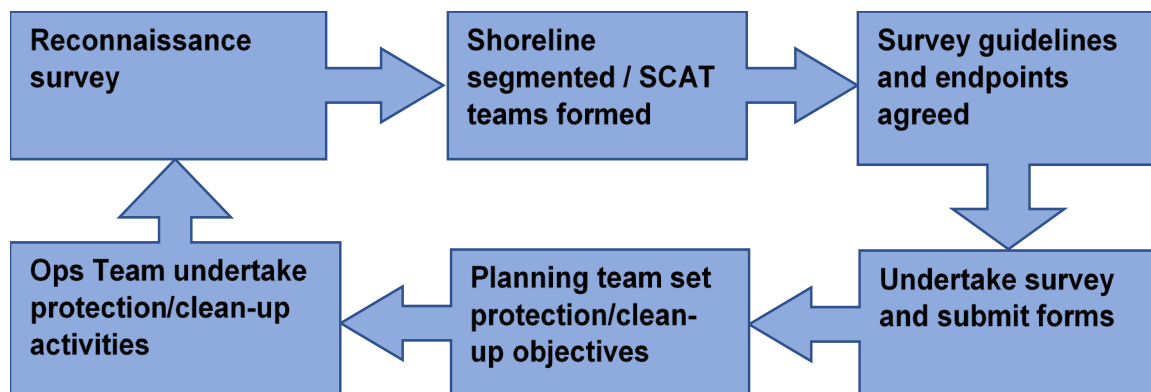
Data Management Team - assist with producing daily status maps showing current SCAT deployments and assessment activities; maintain archive copies for distribution and reference

Pre-spill

SCAT teams survey shoreline predicted to be impacted by oil to identify:

- Shoreline type
- Access options and constraints and staging areas for operations teams
- Potential shoreline clean-up response options
- Threatened resources.
- Survey information assessed and collated.
- Threatened resources and potential shoreline clean-up response options reported to Planning Section Chief

Pre-spill SCAT Process



Post-Spill

SCAT teams survey oiled shoreline impacted by oil to determine:

- Shoreline type
- Coastal character
- Extent of surface and subsurface oiling
- Access options and constraints and staging areas for operations teams
- Potential shoreline clean-up response options
- Impacted resources.

Reconnaissance Survey Objectives

Obtain overall perspective on shoreline types and degree of contamination in the area of impact, determine areal extent of oiling on the shoreline and identify logistical constraints to shoreline access for both shoreline assessment and clean-up teams.

Responsibility

- Usually conducted by a SCAT Coordinator, although someone with local-area knowledge can also be a valuable participant.

Methods

- Should be conducted in the first day or two of the incident and as oil expands into new areas.
- Review maps to become familiar with area and resource concerns. It is best to conduct an aerial survey, but it could also be conducted by vessel, vehicle, or foot.
- Develop a flight plan of the area to be surveyed and brief the pilot on the survey objectives, flight line direction (so that the key observers have direct view of the shoreline), likely duration, and special requirements such as flight altitude.
- Fly entire impact area (~400 feet altitude at a maximum of 100 miles per hour) in helicopter or high-wing aircraft.
- Schedule the flight during low tide to view maximum extent of potentially oiled shoreline.
- Use GPS and topographic maps or nautical charts to record:
 - Flight path, including date and time;
 - Objective descriptors of shoreline oiling conditions
 - Location of floating oil, possibly affecting shoreline oiling conditions
 - References to photographs/video taken; and Access points for survey teams, especially in remote areas
- After the aerial survey, compile your observations, photographs, etc. into a report to share with other SCAT personnel. Select key photographs, particularly of oiled areas needing immediate response, to brief Operations and Planning Sections.
- Visit representative ground sites to confirm and scale the degree of shoreline impacts and note special problems, such as potential for burial of oil, which could affect clean-up decision planning.

Segmenting the Shoreline Objective

Divide the shoreline into operational working units, called segments, for recording and tracking survey data and making treatment recommendations.

Responsibility

Can be completed in the command post by the SCAT Coordinator in consultation with Operations Section using maps, or in the field by SCAT Teams. Local-area knowledge will be valuable. Some areas already have pre-segmented shorelines identified in their Area Contingency Plan.

Methods

- Generate base maps from digital databases or aerial imagery.
- Mark segments based on similarity, degree of oiling, or the boundary of an Operations zone; local staff familiar with the area should be involved.
- Segment boundaries should be readily recognizable in the field.
- Size segments appropriate to spill conditions and total area of impact (often 0.2 to 2.0 km long). Because separate forms are completed for each segment, the interval should not be so small that the number of forms required becomes unmanageable for the size of the spill.
- Use divisions or zones already in use by clean-up operations, when possible.
- Develop the segment-naming scheme with the Operations Section so it is most useful. SCAT segments should not include multiple Operations work zones.
- Consider the logistics for deploying clean-up crews when segmenting the shoreline. For example, segment boundaries along a uniform shoreline (e.g., mudflats) could be between two access points.
- For long uniform shorelines select a fixed length, such as 500 m, and mark with stakes or flags
- Pre-number segments with alphanumeric code
- Remember that the spill responders may not be familiar with local geographic names.
- When segmenting a river shoreline, river miles and river bank (e.g., left or right descending) are often used to delineate each segment.

Developing Spill-Specific Clean-up Guidelines and Endpoints

Ideally, clean-up efforts will return the resource to its baseline condition without suffering further impact or affecting other resources. However, this is not always the case and it is important to agree Clean-up Guidelines and Endpoints early in the spill response process.

Endpoints are selected based on general clean-up objectives, which are to:

- 1) minimize exposure hazards for human health
- 2) speed recovery of impacted areas if possible
- 3) reduce the threat of additional or prolonged natural resource impacts.

These objectives lead to developing clean-up strategies that do not cause more harm to the environment than good.

Objectives

Guide the Operations Section in conducting specific clean-up methods to minimize adverse environmental impact.

Provide the Operations Section with environmental and safety constraints on conducting clean-up activities in specific habitats.

Responsibility

It is the responsibility of the Command Team in consultation with Local Authority, Landowners and other stakeholders to set Clean-up objectives and endpoints.

Method

- Evaluate proposed clean-up methods for potential habitat or resource effects.
- Identify time-critical and degree-of-use issues to be combined with clean-up priorities and endpoints.
- Identify sensitive resources that may be adversely affected by the proposed treatment methods (e.g., rich intertidal biota on rocky shores where low-pressure ambient-water flushing will be used).
- Consult relevant local/national/international specialists and ecological and environmental specialist and experts.
- Discuss among stakeholders the trade-off issues between the desire to remove all the oil versus the potential impacts associated with intensive treatments.
- Consider natural removal processes and the timing of habitat use. Even the presence of clean-up workers can disturb wildlife such as marine mammals at haul-out sites and nesting birds and sea turtles.
- Write operational guidelines to minimize adverse impacts
- Conduct field trials and evaluate new methods or equipment to determine effectiveness and potential adverse effects.
- Observe actual operations to confirm the method's use, i.e., that the clean-up is effective and is not more damaging than the oil alone.
- Modify clean-up guidelines as the oil changes from weathering, rendering the technique ineffective, or when unacceptable impacts occur under actual use.

Shoreline Surveys

Objectives

- To collect data on shoreline types, oiling conditions, and ecological and human-use resources for each segment.
- Reach agreement on treatment recommendations and priorities for specific segments. Confirm that recommendations are effective and beneficial to the environment

Responsibility

SCAT Team

Method:

- Confirm segment boundaries upon arrival at the assigned segment, or if not yet determined, delineate segment boundaries during the SCAT survey.
- Conduct survey to identify shoreline types and extent of oiling. The team should spread out so that the entire intertidal and supratidal zones are covered.
- Describe the shoreline characteristics, surface oil conditions, subsurface oil conditions, and special considerations (ecological, recreational, cultural)
- It is important to always dig pits in permeable substrates.
- Look at the shoreline for clues as to where oil may have become buried by the deposition of clean sediment.
- Delineate the start/end of each oil zone within the segment, by waypoints AND marks on the segment map. Zones can be along shore or cross shore, where the oiling degree and/or shoreline type changes, such as along a sand beach with surface residue that changes to a riprap wall with coat along shore or dunes in the supratidal zone that contains a small number of tarballs.
- Note presence of submerged oil in nearshore zone for spills of heavy oil. Log and locate all photographs taken.
- Complete the surveys each day in time to meet reporting deadlines.

Setting Clean-up Objectives

The responsibility for setting of objective following the SCAT survey rests with the Planning Section in consultation with Local Authority, Department of Environment and Coast Guard.

Implementing clean-up Plans

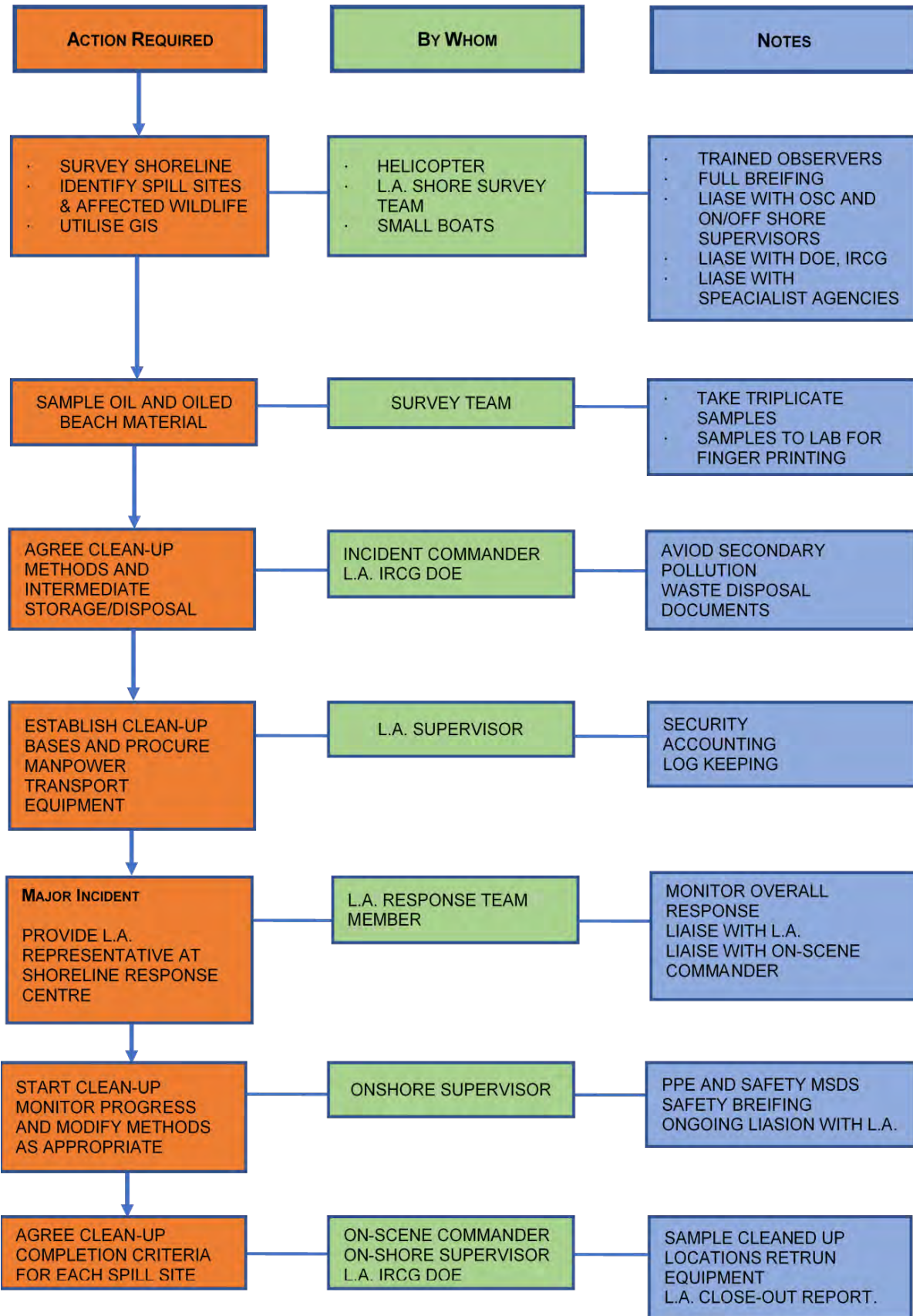
The responsibility for carrying-out clean-up activities rests with the Operations Section, in particular the Onshore Supervisor.

Monitoring, Evaluation and Final Inspections

It is important to monitor clean-up operations routinely to evaluate progress of clean-up activities and assess the need for modifying clean-up methods or endpoints. Any reports of new oiling should also be investigated.

A final inspection should be undertaken with relevant stakeholders prior to declaring the clean-up completed.

Post-Spill Shoreline Clean-Up Process Flow



Shoreline Clean-up Matrix – white oils (petrol, avgas, diesel, heating oils)

	SHORELINE TYPE BASE LINE	COMMENTS
1	Exposed rocky headlands	Where wave action keeps most oil offshore and biomass is low
2	Eroding wave-out Platforms	From which oil is usually removed quickly by waves
3	Fine grained sand beaches	Into which most oil does not penetrate far, from which it can be removed naturally within months
4	Medium and coarse-grained beaches	Where oil may penetrate, making cleaning difficult but may be removed naturally
5	Mixed sand and gravel beaches	Which oil may penetrate rapidly and where it may persist for long periods
6	Gravel beaches	Into which oil penetrates most deeply and may persist, but where the biomass is low
7	Exposed compacted tidal flats	Which oil does not readily penetrate but where biological damage may be extensive
8	Sheltered rocky coasts	Where oil may persist for many years in what is often a biological rich shoreline
9	Sheltered tidal flats	Which are vulnerable areas of high biomass and diversity and where long-term persistent oil may prevent recolonization by some species
10	Saltmarsh and Mangrove	The biologically most productive type, where oil may have very damaging and persistent effects

Indices 1 – 3	Least Sensitive
Indices 4 – 6	Intermediate Sensitivity
Indices 7 – 10	Most Sensitive

Shoreline Clean-up Matrix – white oils (petrol, avgas, diesel, heating oils)

Key to shoreline type codes

- A - Sea walls and piers
- B - Wave exposed rocky and boulder shores
- C - Exposed cobble shore
- D - Fine-grained sand beaches
- E - Coarse-grained sand beaches
- F - Wave sheltered mixed shingle shores
- G - Wave sheltered rocky and boulder shores
- H - Sheltered mud flats
- I - Saltmarshes

Key to matrix codes

- R - Recommended method (normally most effective)
- A - Alternative method (but often less effective)
- C - Conditional on expert advice/approval
- X - Do Not Use
- Blank - not relevant or ineffective

	Clean-up Technique	Shoreline Type								
		A	B	C	D	E	F	G	H	I
1	No Action	R	R	R					R	R
2	Manual Removal of oil (rakes, shovels etc)			A	A	A	A			
3	Passive collection (sorbents)	R	A	A	A	A	R	R	A	R
4	Oiled debris removal						A	A		
5	Trenching to remove surface oil					A	A	C		
6	Oiled sediments/substratum removal			A	A	A	C		X	X
7	Seawater deluge		R	R	R	R	R	R	X	X
8	Seawater flushing: low pressure (<50psi)	R	R	R	A	A	R	R	C	C
9	Seawater flushing: medium pressure (50-100psi)						C	C		
10	Hot water/high pressure washing									
11	Vacuum suction		R	A	A	A	A	R	A	A
12	Sediment reworking (tilling)				R	A	A		X	X
13	Evacuation, cleansing and replacement		X	A	A	A	C	X		
14	Dispersant application	C	C	X	C	X	X	C	X	X

Shoreline Clean-up Matrix – black oils (heavy, fuel oil and crude oil)

Key to shoreline type codes

- A - Sea walls and piers
- B - Wave exposed rocky and boulder shores
- C - Exposed cobble shore
- D - Fine-grained sand beaches
- E - Coarse-grained sand beaches
- F - Wave sheltered mixed shingle shores
- G - Wave sheltered rocky and boulder shores
- H - Sheltered mud flats
- I - Saltmarshes

Key to matrix codes

- R - Recommended method (normally most effective)
- A - Alternative method (but often less effective)
- C - Conditional on expert advice/approval
- X - Do Not Use
- Blank - not relevant or ineffective

	Clean-up Technique	Shoreline Type								
		A	B	C	D	E	F	G	H	I
1	No Action		R	R					R	R
2	Manual Removal of oil (rakes, shovels etc)			A	R	R	R			
3	Passive collection (sorbents)	A	A	A	A	A	R	R	A	R
4	Oiled debris removal		R	R	R	R	R	R	R	R
5	Trenching to remove surface oil			A	A	A	C		X	X
6	Oiled sediments/substratum removal		X	A	R	R	C	X	X	X
7	Seawater deluge		R	R	A	A	R	R	X	X
8	Seawater flushing: low pressure (<50psi)		R	A	A	A	R	R	C	C
9	Seawater flushing: medium pressure (50-100psi)	R	C				C	C		
10	Hot water/high pressure washing	R	X				X	X		
11	Vacuum suction		R		A	A	A	R		
12	Sediment reworking (tilling)				R	A	A		X	X
13	Evacuation, cleansing and replacement		X	A	A	A	C	X		
14	Dispersant application	C	C	X	C	X	X	C	X	X

CAT Form – Page 1 of 2:

1 General Incident: _____ Local authority: _____ Date: _____ Survey from: Boat / Viewpoint / Foot Weather & tide: _____ Time: _____ to _____
2 Surveyors _____ Org./Tel./Radio No: _____ _____ Org./Tel./Radio No: _____ _____ Org./Tel./Radio No: _____
3 Segment ID / Shore name & location (Where in county? What part of shore surveyed? Mark on map/sketch overleaf)
4 Shore type(s) ✓✓ = primary ✓ = secondary Bedrock: cliff <input type="checkbox"/> / slope <input type="checkbox"/> / platform <input type="checkbox"/> / ridges <input type="checkbox"/> Stable boulders/cobbles <input type="checkbox"/> Mobile boulders/cobbles/pebbles <input type="checkbox"/> Solid seawalls <input type="checkbox"/> Revetment <input type="checkbox"/> Coarse sediment <input type="checkbox"/> Mobile sand <input type="checkbox"/> Stable sand <input type="checkbox"/> Clay/Peat <input type="checkbox"/> Stable mixed substrata <input type="checkbox"/> Firm muddy sand <input type="checkbox"/> Soft mud <input type="checkbox"/> Saltmarsh <input type="checkbox"/> Reed swamp <input type="checkbox"/> Other: _____ Prominent features: Pools <input type="checkbox"/> Deep cracks/crevices <input type="checkbox"/> Pockets of sediment between rocks <input type="checkbox"/> Strandline debris & litter: _____
5 Operational features Ongoing clean-up activity <input type="checkbox"/> : _____ Access to shore: _____ Access on shore: _____ Comms: _____ Suitable laydown / storage area <input type="checkbox"/> Oiled debris <input type="checkbox"/> _____ bags / trucks
6 Surface Oil (mark location and extent on map/sketch overleaf) Describe surface oiling using the following terms if possible: Location: above / below strandline Distribution: Continuous, Broken, Patchy, Sporadic Oil Thickness: Thick oil, Cover, Coat, Stain, Film Oil character: Fresh, Mousse, Tar Balls, Tar Patties, Tar, Surface Oil Residue, Asphalt Pavement Area: Describe area of oil coverage with dimensions (pace out shore lengths and band widths)
Risk that shoreline oil could remobilise? <input type="checkbox"/> Floating oil (close to shore)? <input type="checkbox"/>
7 Subsurface Oil Observed / Likely / Unlikely / Don't Know (mark location on map/sketch overleaf) Explain reasons for above categorisation. Describe observed subsurface oiling using the following terms where possible: Location: above / below strandline. Distribution: Extensive, Frequent, Uncommon Oil descriptors: depth & band thickness (cm), Heavy deposits (Mobile?), Residue, Film or Stain, Asphalt Pavement

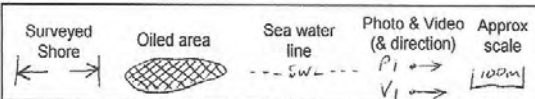
Other materials: Map Sketch Photos (No. _____) Video (No. _____)

SCAT Form 2 of 2:

8A Resource sensitivities and other constraints on clean-up (ecological / recreational / cultural / economic; incl. wildlife casualties)

8B Clean-up recommendations (Oil, debris, litter)

9 Sketch maps / profiles



CHAPTER 7

RESPONSE STRATEGIES

AND

OPTIONS

Issue
2

Date
Oct 2023

Status
For review

Page No
98

7 Response Strategies:

Response Objectives are detailed and described in **PHASE 1 on page 8** of the main operational plan. Specific priorities, including the development of an **Incident Action Plan** are outlined in **PHASE 2, page 18**.

Following a marine oil spill there are three primary windows that exist for an effective response. Within each window, certain spill control measures can be taken to minimize adverse environmental effects:

Very early - Oil is fresh and concentrated near the discharge source.

- Window may be open for 1-2 days;
- Focus on source control and containment near the source, and removal (these offer the best opportunities to reduce adverse environmental impacts).

Early - Oil has spread, is no longer concentrated, and threatens sensitive resources and habitats.

- Window may be open for several days to weeks;
- Sensitive resources and habitats are threatened; and
- Responders work to minimize the spread of oil, prevent it from contacting resources at risk, and protect resources and habitats most vulnerable to longer-term oil impacts.

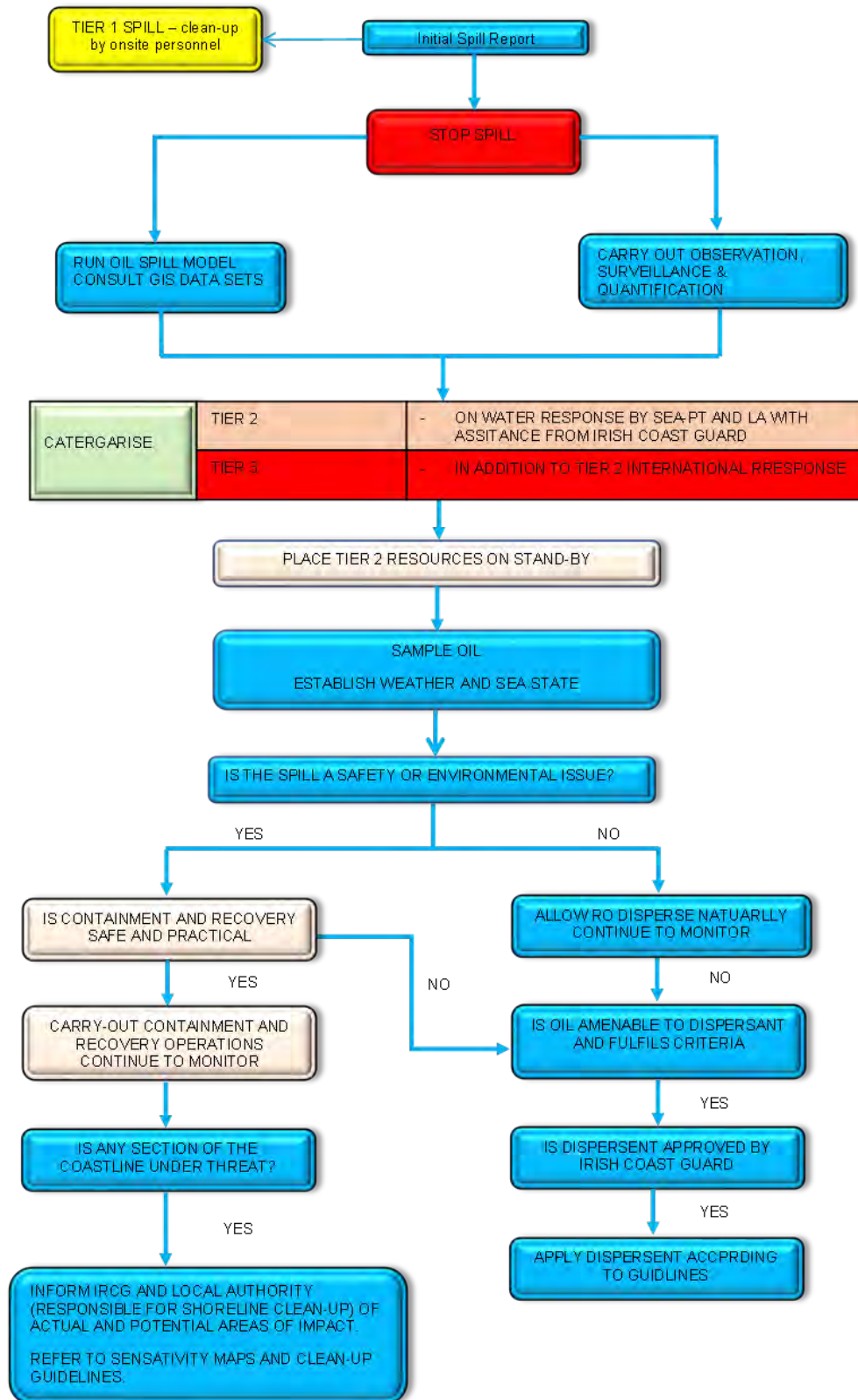
Later - Oil has stranded.

- Window may be open for days to months, or longer; and
- Responders use habitat-appropriate shoreline clean-up options to minimize environmental effects and enhance natural recovery (in some cases, oil may be left to degrade naturally because physical removal would cause a greater negative impact than leaving it in place).

Situation Evaluation and Selection of Response Strategy

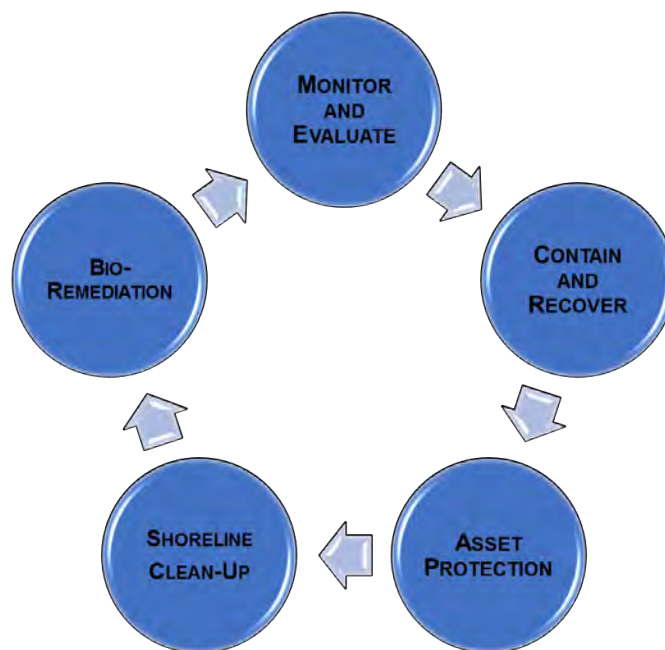
STEP	Action	Details
1	Collect Incident details	
2	Stop or reduce further spillage of oil	<p>Identify source of spill Work with spiller to stop/isolate source</p> <p>For ship spills:</p> <ul style="list-style-type: none"> ▪ Master of ship to identify damaged tanks; ▪ Consider moving damaged ship to shelter/place of refuge; and ▪ If possible transfer oil in damaged tanks to any space available within ship or transfer some/all of oil to another ship. <p><i>Note: If damaged ship is aground, consider use shallow draught barge or floating storage tank or floating hoses to transfer the oil to a ship in deeper water.</i></p> <p><i>For other sources of spills, refer to respective tier 1 plan details.</i></p>
3	Aerial surveillance of oil slick	<p>Information from aerial surveillance of the slick is of vital importance in choosing response options. Use fixed wing aircraft or helicopter with appropriate navigational aids and communications equipment. Aerial surveillance provides information about:</p> <ul style="list-style-type: none"> ▪ the size, quantity and location of the spill; ▪ the movement of the oil; ▪ changes in the appearance and distribution of the oil over time; ▪ marine and coastal resources or areas or under threat; and ▪ the effectiveness of response options.
4	Assess threat of oil slick	<p>Information about an oil spill is assessed before deciding appropriate response actions. Factors to consider include:</p> <ul style="list-style-type: none"> ▪ size of the spill; ▪ the likelihood of further spills; ▪ type(s) of oil; ▪ weather, including wind direction and force, sea state, sea temperature and tide current; ▪ position of the spill in relation to marine and coastal resources; and likely movement of the spill.
5	Select spill response options	<p>No Action – Monitor and Evaluate Contain and Recover Protection of strategic/sensitive areas Shore-line Clean-up Bio-remediation Combination of response options</p>

Overall Response Process



Response Techniques Hierarchy

There are many references which discuss the appropriate hierarchy of response to an oil spill. The reality is that while there may be a sequential response process, the various options are applied concurrently with the different techniques applied according to the prevailing conditions and circumstances.



The use of dispersant may be considered as a tactic at any time and should follow the assessment and protocols set down by the Irish Coast Guard and given in Chapter 8.

Monitor and Evaluate

This option is particularly suitable for non-persistent oils that are not threatening sensitive areas. Such oils will generally disperse naturally within a day or so. Agitation may assist evaporation/dispersal. The option may also be suitable for more persistent oils that don't threaten any sensitive shoreline or wildlife. If conditions are such that the oil will be carried offshore, the oil will eventually disperse naturally, although over a longer period than non-persistent oils.

Any decision to allow persistent oils to biodegrade once they have impacted on a shoreline will be made in consultation with the environmental and wildlife advisors and only after having had regard to the following matters:

- the quantity and type of oil
- the shoreline topography
- the ecological values of the shoreline
- the recreational use of the area
- the wave climate
- the safety of responders
- the potential long term impacts of the spilled oil on the foreshore, sub-tidal areas, and neighbouring land; and
- the potential adverse effects of the clean-up methods or activities.

Contain and Recover

Contain and Recover is a tactic that utilizes specialised booms and skimmers to recover floating oil on water (or other specialised equipment for on-shore spill). It is often seen as the ideal solution to a spill at sea as this aims to physically remove oil from the marine environment. As a result, it is the primary at-sea response strategy adopted by many governments around the world.

For containment and recovery of oil to be successful, there are some key challenges that must be overcome. The drifting floating oil must be located and the equipment deployed in an effective arrangement. The sea state and weather conditions must be sufficiently calm to permit the selected equipment to function well and for the response personnel to safely operate the equipment. The oil must also be in a state that is amenable for recovering using the available skimmers. These interrelated challenges commonly combine to limit the proportion of spilled oil that can be recovered to 10-15%. However, where the environment conditions and response factors allow, containment and recovery can be an important strategy.

Protection – Shoreline, sensitive areas and infrastructure

In a similar way that booms can be used to collect and contain spilled oil, they can also be positioned to protect uncontaminated areas ahead of the spilled oil reaching those areas. Pre-cleaning and the removal of shoreline debris, in advance of the oils arrival will also reduce contamination, assist with clean-up, waste minimisation.

The pre-positioning of spill response equipment, including booms as an outcome of scenario planning is a valuable contingency strategy.

Clean-up

Most ship-source oil spills occur close to the coast and, as a result, many spills result in contamination of shorelines. Oil stranding on the shore can cause significant environmental and economic impacts and may also largely determine the political and public perception of the scale of the incident, as well as the overall costs.

When oil does reach the shoreline, considerable effort may be required to clean the affected areas. It is therefore essential that comprehensive and well-rehearsed arrangements for shoreline clean-up are included in contingency plans. The techniques available for shoreline clean-up are relatively straightforward and do not normally require specialised equipment. However, inappropriate techniques and poor organisation can aggravate the impacts caused by the oil itself.

Shoreline clean-up operations are often considered in three stages:

Stage 1 - bulk oil is removed from the shore to prevent remobilisation;

Stage 2 - removal of stranded oil and oiled shoreline material which is often the most protracted part of shoreline clean-up, and;

Stage 3 - final clean-up of light contamination and removal of stains, if required. Depending upon the nature of the contamination, progression through each of these stages may not be required. Consideration will also need to be given to the environmental sensitivity of the shoreline so as to ensure the planned level of cleaning will not cause more harm than leaving the oil in place.

Bioremediation

Bioremediation is the process of using natural organisms to neutralize or remove contamination from waste. In some cases, it may be the best environmental technique to remediate contaminated sites – particularly sensitive areas. It should be understood that this process will take weeks, months and possibly years. It may be possible to speed up the process by the addition of certain fertilisers. Specialist and expert advice and guidance should be engaged to assist in deciding upon bioremediation as a response strategy.

Response Option Guidance

Fate of Oil

In order to develop effective response strategies, it is necessary to understand how oil behaves on entering the marine environment and over time. This process is referred to as the '*Fate of Oil*'.

When oil enters the marine environment, many physical, chemical and biological degradation processes take place. These processes change the properties and behaviour of the oil. Some processes cause the oil to "disappear", but the fact that it is no longer visible on the water surface does not necessarily mean that it is gone or has been rendered environmentally harmless.

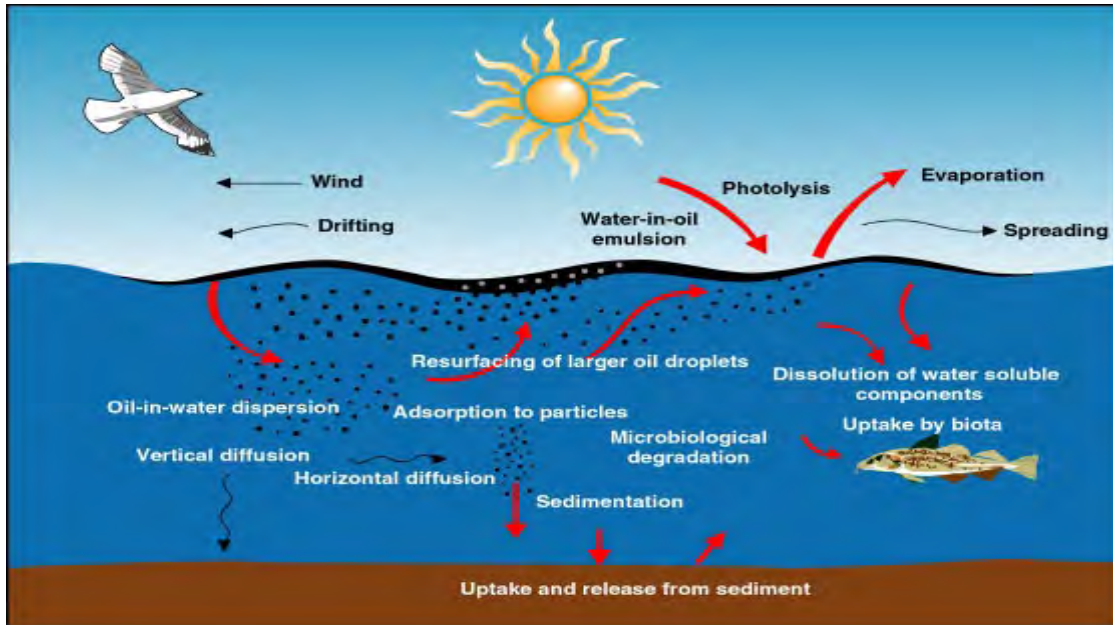
A number of factors will decide the physical, chemical and biological degradation of the oil, as well as the potential environmental damage of the spill or discharge, in that particular area:

- The composition and amount of oil discharged
- The quantity and duration of the discharge/spill.
- The time of year at which it occurs.
- The temperature of the air and the receiving water body.
- The weather conditions.
- The species composition in the area affected.
- The properties of the shore line (rocky, sandy, mud flats, mangroves, etc.)
- The amount of oil-degrading micro-organisms in the area.
- The supply of oxygen in the water

Spreading

When oil is spilled onto water it starts to spread out over the sea surface, initially as a single slick. The speed at which this takes place depends to a great extent upon the viscosity of the oil. Fluid, low viscosity oils spread more quickly than those with a high viscosity. Nevertheless, slicks quickly spread to cover extensive areas of the sea surface. Spreading is rarely uniform and large variations in the thickness of the oil are typical. After a few hours the slick will begin to break up and because of winds, wave action and water turbulence, will then form narrow bands or windrows parallel to the wind direction.

The rate at which the oil spreads is also determined by the prevailing conditions such as temperature, water currents, tidal streams and wind speeds. The more severe the conditions, the more rapid the spreading and breaking up of the oil.



Evaporation

Lighter components of the oil will evaporate to the atmosphere. The amount of evaporation and the speed at which it occurs depend upon the volatility of the oil. An oil with a large percentage of light and volatile compounds will evaporate more than one with a larger amount of heavier compounds. For example, petrol, kerosene and diesel oils, all light products, tend to evaporate almost completely in a few days whilst little evaporation will occur from a heavy fuel oil. In general, in temperate conditions, those components of the oil with a boiling point under 200c tend to evaporate within the first 24 hours. Evaporation can increase as the oil spreads, due to the increased surface area of the slick. Rougher seas, high wind speeds and high temperatures also tend to increase the rate of evaporation and the proportion of an oil lost by this process.

Dispersion

Waves and turbulence at the sea surface can cause all or part of a slick to break up into fragments and droplets of varying sizes. These become mixed into the upper levels of the water column. Some of the smaller droplets will remain suspended in the sea water while the larger ones will tend to rise back to the surface, where they may either coalesce with other droplets to reform a slick or spread out to form a very thin film. The oil that remains suspended in the water has a greater surface area than before dispersion occurred. This encourages other natural processes such as emulsification, biodegradation and sedimentation to occur. The speed at which an oil disperses is largely dependent upon the nature of the oil and the sea state. The addition of chemical dispersants (also surfactants) can accelerate this process of natural dispersion.

Emulsification

An emulsion is formed when two liquids combine, with one ending up suspended in the other. Emulsification of crude oils refers to the process whereby sea water droplets become suspended in the oil. This occurs by physical mixing promoted by turbulence at the sea surface. The emulsion thus formed is usually very viscous and more persistent than the original oil and is often referred to as chocolate mousse because of its appearance. The formation of these emulsions causes the volume of pollutant to increase between three and four times. This slows and delays other processes which would allow the oil to dissipate. Oils with an asphaltene content greater than 0.5% tend to form stable emulsions which may persist for many months after the initial spill has occurred. Those oils containing a lower percentage of asphaltenes are less likely to form emulsions and are more likely to disperse. Emulsions may separate into oil and water again if heated by sunlight under calm conditions or when stranded on shorelines.

Oxidation

Oxidation occurs when oil contacts the water and oxygen combines with the oil to produce water-soluble compounds. Oils react chemically with oxygen either breaking down into soluble products or forming persistent compounds called tars. The process is promoted by sunlight and the extent to which it occurs depends on the type of oil and the form in which it is exposed to sunlight. However, this process is very slow and even in strong sunlight, thin films of oil break down at no more than 0.1% per day. The formation of tars is caused by the oxidation of thick layers of high viscosity oils or emulsions. This process forms an outer protective coating of heavy compounds that results in the increased persistence of the oil. Tar balls, which are often found on shorelines and have a solid outer crust surrounding a softer, less weathered interior, are a typical example of this process.

Biodegradation

Seawater contains a range of micro-organisms or microbes that can partially or completely degrade oil to water soluble compounds and eventually to carbon dioxide and water. Many types of microbe exist and each tends to degrade a particular group of compounds in crude oil. However, some compounds in oil are very resistant to attack and may not degrade.

The main factors affecting the efficiency of biodegradation, are the levels of nutrients (nitrogen and phosphorus) in the water, the temperature and the level of oxygen present. As biodegradation requires oxygen, this process can only take place at the oil-water interface since no oxygen is available within the oil itself. The creation of oil droplets, either by natural or chemical dispersion, increases the surface area of the oil and increases the area available for biodegradation to take place."

Sedimentation

Some heavy refined products have densities greater than one and so will sink in fresh or brackish water. However, sea water has a density of approximately 1.025 and very few crude oils are dense enough or weather sufficiently, so that their residues will sink in the marine environment. Sinking usually occurs due to the adhesion of particles of sediment or organic matter to the oil. Shallow waters are often laden with suspended solids providing favourable conditions for sedimentation. Oil stranded on sandy shorelines often becomes mixed with sand and other sediments. If this mixture is subsequently washed off the beach back into the sea it may then sink. In addition, if the oil catches fire after it has been spilled, the residues that sometimes form can be sufficiently dense to sink.

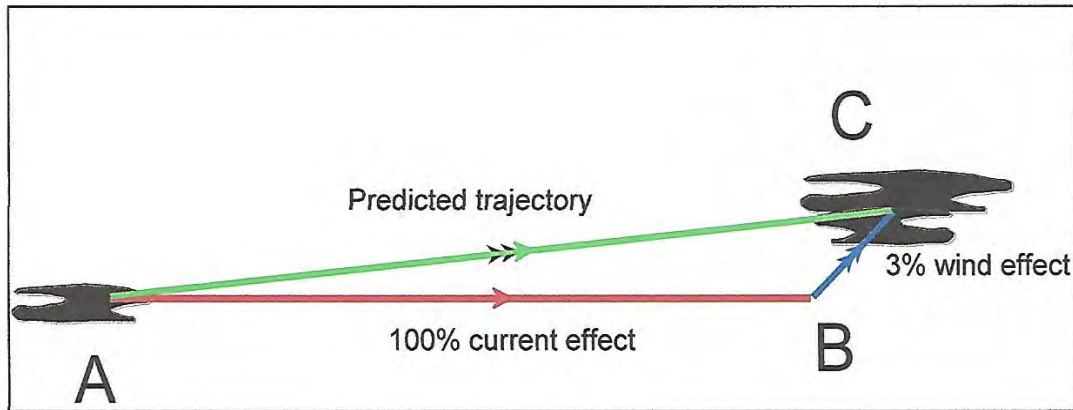
Estimating Oil Movement and Volume

Estimating the initial release volume of an oil spill is often difficult unless the cause is accurately known e.g. ruptured tank with known pre-and post-spill content. However, it is also critical to the overall spill response to have a good understanding of the extent of the release.

Oil does not spread uniformly and oil thickness will vary dramatically. Once surface tension forces have been exceeded and the slick begins to break-up it becomes even harder, even if the initial volume is known. The volume will change as a result of weathering as discussed above and must be constantly monitored.

MONITORING AND EVALUATING STRATEGIES
Aerial reconnaissance to identify the polluter, track and assess oil
Computer modelling of oil fate and trajectory
Oil sampling
Manual plotting of oil movement
Weather watch

Oil moves as a function of current and wind. The current has a 100% influence, the wind has a 3% influence. As with the figure below apply AB first (current set and rate), BC second (wind direction and speed), and AC last (resultant vector). For best results plot by the hour and update estimated position with over flight updates.



SEA-PT has access to computer-based trajectory prediction modelling through OceansMAP.

OceansMAP is a web-based met-ocean data and emergency response simulation system. It consists of a GIS-based graphical user interface, a spatial database and web services from OceansMap Server. The web-interface allows users and groups to manage, visualize and analyse a variety of met-ocean data including operational models and in-situ observation data. OceansMap will use both oil and chemical spill scenarios, run a trajectory and weathering model and visualize the results of the model. The trajectory models will seamlessly access the latest regional wind data from Meteogroup Offshore and a Shannon Estuary Tidal current data hosted in OceansMap Server. The system also includes interactive GIS features and tools to manage spill response planning activities and assets.

OceansMAP is an invaluable tool for evaluating potential spill trajectory and extent. However, it will also be necessary to undertake real time surveillance and tracking.

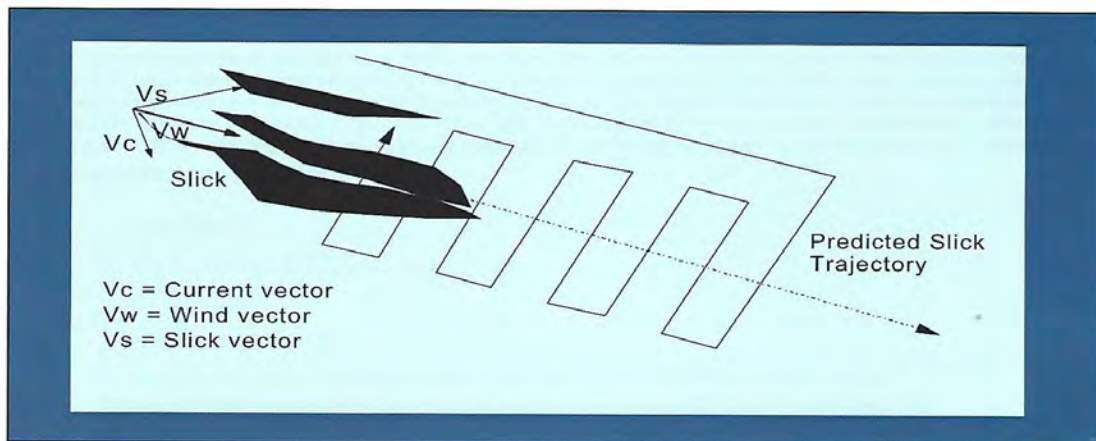
Surveillance and Tracking

During the time an operational base is being established with equipment and personnel arriving to commence the spill clean-up operations, a detailed assessment of the spill conditions (i.e. the movement of the oil, the size and formation of the area affected, etc.) becomes the main objective. For this purpose, helicopters are better suited than fixed wing aircraft. SEAPT members (Kerry, Clare and Limerick local authorities) have access to 'drones' equipped with live-stream video which can be used for local, low-level surveillance and tracking.

Under normal circumstances helicopters (and where more appropriate drones) should be employed for the surveillance of coastal spills. The inherent manoeuvrability of such aircraft makes repeated observation of critical areas easy, and even prolonged observation from a helicopter stationary above a certain spot may be possible. In addition, helicopters may land on beaches to pick up personnel and equipment from sites inaccessible to fixed wing aircraft.

Surveillance from boats and ships has proved notoriously difficult and slow, due to the limited visibility and range of ships. However, observations from ships can provide useful information on the location of an oil slick. The use of driftbuoys or driftcards may be helpful under certain circumstances.

After the spill control team is in full operation, and especially during beach clean-up operations, aerial surveillance of the spill should be attempted as soon as possible after dawn in order to gain as clear a picture as possible on how the overall situation has developed during the night. Surveillance flights should then be repeated as often as necessary, particularly if the conditions of the source of the spill and the weather change. A final surveillance flight should be made shortly before dusk. The information gained should be brought to the knowledge of the work teams and their deployment reconsidered in light of the changed circumstances. Use of video or film cameras and equipment for surveillance is recommended.



Where it is not possible to accurately quantify the amount of oil spilled, there is a requirement to be able to estimate the quantity. The following table shows the

SPILL QUANTIFICATION – OBSERVATION TABLE				
CODE	COLOUR	OIL TYPE	THICKNESS (MM)	VOLUME (m ³ /km ²)
1	Silvery	Light Sheen	0.0001	0.1
2	Iridescent	Sheen	0.0005	0.5
3	Light Brown	Thick Sheen	0.001	1
4	Brown	Fuel oil/Crude	0.01	10
5	Black	Crude oil	0.1	100
6	Orange	Emulsion	1.0	1000

Response Options

The actual response option(s) will depend on the incident, the nature of the oil, the location of the spill, the sensitivity of the area, and the weather and sea conditions. The potential response options are expanded upon below.

The response options selected should aim to:

- prevent spillage or stop further spillage;
- prevent spreading (booms);
- enhance evaporation (via agitation);
- enhance dispersion (via agitation, dispersant);
- prevent emulsification (via removal prior to emulsification, dispersant); and
- remove oil from the environment where practicable.

Assess the incident

The monitoring and assessment of any spill event is critical to ensure that appropriate response decisions are made. The type of information required will include:

- the type and quantity of oil,
- its location and predicted movement,
- how the oil might weather, and
- any other relevant information.

The Marine Oil Spill Assessment Form (Chapter 2) should be used to record this information. For guidance on monitoring oil spills refer to the “Oil Spill Monitoring Handbook”.

Prevent spilled oil from spreading (contain, divert, or disperse)

This option is applicable to any spilled oil whether it is from a single event spill or one of an ongoing nature. Particular options include, but are not limited to, the following:

- contain spilled oil with booms or other floating barriers for later recovery by skimmer, sorbents or sucker truck;
- divert (deflect) spilled oil away from highly sensitive areas;
- apply dispersants to disperse the oil into the water column (see “Oil Spill Dispersants – Chapter 8
- enhance natural evaporation of the spilled oil.

Prevent impact of spilled oil on sensitive facilities, craft, or wildlife

This option is applicable to any spilled oil whether it is from a single event spill or one of an ongoing nature. In some instances, it will be easier, less costly, more practicable and more effective to

minimise damage by keeping facilities, craft or wildlife that are sensitive to damage from the spilled oil away from the spillage.

Particular options include, but are not limited to, the following:

- discouraging birds or animals from landing, wading, or feeding on areas of water or foreshore affected or potentially affected by spilled oil.
- removing boats and other vessels that may have their hulls fouled; preventing use of waters or foreshore affected by spilled oil; and
- pre-cleaning of potentially impacted beaches.

Implement techniques to clean up spilled oil.

As well as efforts preventing or reducing the quantity of oil spilled and minimising its impact on the environment it may be necessary to remove the oil from the water's surface or from impacted shorelines. Any oil that neither evaporates or disperses into the water column will remain afloat or wash ashore and will need to be physically cleaned up, recovered or left to breakdown naturally. Any recovery of spilled oil will necessitate some form of storage/disposal whether that be temporary or permanent – see Chapter 12.

Clean up options in this wider sense include the following:

- remove from the water using skimmers.
- remove from the water using sorbents (pads, pillows, booms);
- remove from the water using a rope mop.
- remove from the water using a suction truck.
- remove from the shore using water, shovels, graders, excavators, sorbents and manpower
- depending on the physical environment (see Shoreline Clean-up Guides below);
- treat oiled wildlife.
- leave the spilled oil alone and allow it to biodegrade and bioremediate.

Net Environmental Benefit Analysis

The impact that the clean-up process will have on the environment relative to the damage caused by stranded oil should be a consideration when deciding upon the appropriate response. Net Environmental Benefit Analysis (NEBA) should be used.

Net environmental benefit analysis (NEBA) is a structured approach used by the response community and stakeholders during oil spill preparedness planning and response, to compare the environmental

benefits of potential response tools and develop a response strategy that will reduce the impact of an oil spill on the environment.

The NEBA process comprises four stages:

- 1. Compile and evaluate** data to identify an exposure scenario and potential response options, and to understand the potential impacts of that spill scenario.
- 2. Predict the outcomes** for the given scenario, to determine which techniques are effective and feasible.
- 3. Balance trade-offs** by weighing a range of ecological benefits and drawbacks resulting from each feasible response option. In some countries this will also include an evaluation of socioeconomic benefits and costs resulting from each feasible response option.
- 4. Select the best response options** for the given scenario, based on which combination of tools and techniques will minimize impacts.

Depending on the scale and complexity of the spill scenario under consideration, the NEBA process may range from a brief review and straightforward weighing up of a few simple options by a contingency planner, to more substantial analysis including a wide-ranging series of engagements with multiple stakeholders.

Reference – IPIECA/IOGP 2016

Given that almost the entire area of the Shannon Estuary is of significant environmental importance, containing numerous area of scientific prominence, NEBA should be undertaken prior to executing any response tactic.

Specific Response Options

Petrol and Jet A1

Prevent further spillage. Due to its location at the Shannon Airport Jetty and the products high flammability, the Fire and Rescue Service should be notified, to secure the site. Once it is safe to do so (Fire Service recommendation) residuals could be removed by absorbents if required to avoid adverse effects on the environment. Dispersants should not be used.

Automotive gas oil (Diesel)

Prevent further spillage. Proceed if safe to do so (OSC decision). Contain if possible using quick response sorbent booms. For small-localised spills: If possible remove from the water with absorbents, or agitate to enhance dispersion. For larger spills, the same procedure could be used in conjunction

with booms (where appropriate) to protect any threatened sensitive areas, skimmers to recover any collected oil, and hazing of wildlife if appropriate.

Dispersant use is very seldom appropriate on diesel, although exceptions may arise where human health is directly at risk from fire or fumes. It should only be considered if:

- containment and/or physical removal will not be sufficient, appropriate or possible.
- evaporation and natural or agitated dispersion is not occurring sufficiently fast to avoid adverse effects on the environment;
- there is a clear net environmental benefit from use of dispersant.

Light fuel oil

Prevent further spillage. Proceed if safe to do so (OSC decision). Contain if possible, using quick response sorbent booms. For small-localised spills: If possible, remove from the water with absorbents, or agitate to enhance dispersion. For larger spills: Contain if possible, by booming, or direct to recovery area, and remove from the water with skimmers, rope mops, suction pumps or absorbents. Booms could be used (where appropriate) to protect any threatened sensitive areas, along with hazing of wildlife if appropriate.

Heavy fuel oil

Prevent further spillage. Proceed if safe to do so (OSC decision). Contain if possible, using booms. For small-localised spills: If possible, remove from the water with absorbents or skimming devices. For larger spills: Contain if possible, by booming, or direct to recovery area, and remove from the water with skimmers, rope mops, suction pumps or absorbents. Booms could be used (where appropriate) to protect any threatened sensitive areas, along with hazing of wildlife if appropriate.

Crude oils

Prevent further spillage. Proceed if safe to do so (OSC decision). Contain if possible, using booms. For small-localised spills: If possible, remove from the water with absorbents or skimming devices. For larger spills: Contain if possible, by booming, or direct to recovery area, and remove from the water with skimmers, rope mops, suction pumps or absorbents. Booms could be used (where appropriate) to protect any threatened sensitive areas, along with hazing of wildlife if appropriate.

Specific Location/Site Response Plans (Tactical Cards):

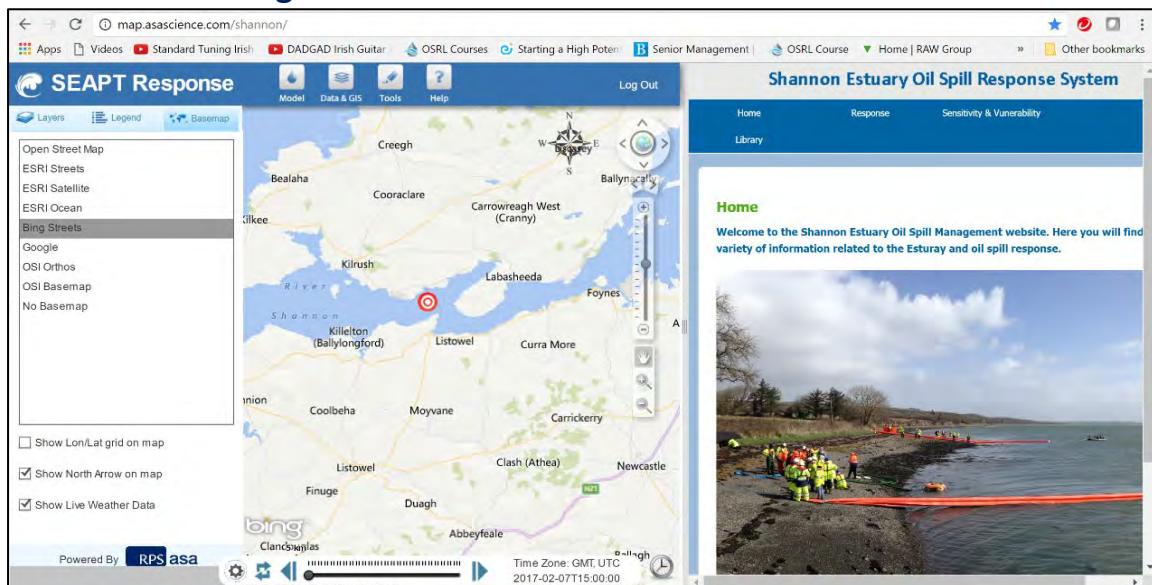
SFPC and SEA-PT utilize the Web-Based ASAScience OILMAP. This real-time and interactive spill response and contingency planned tool allows for response plans to be developed based on risk assessment and trajectory, fate modelling and impact assessment.

SEA-PT have developed a significant number of location and site focused Initial Incident Actions Plans which include response objectives, initial response activities, booming requirements and schematics and sensitive area information.

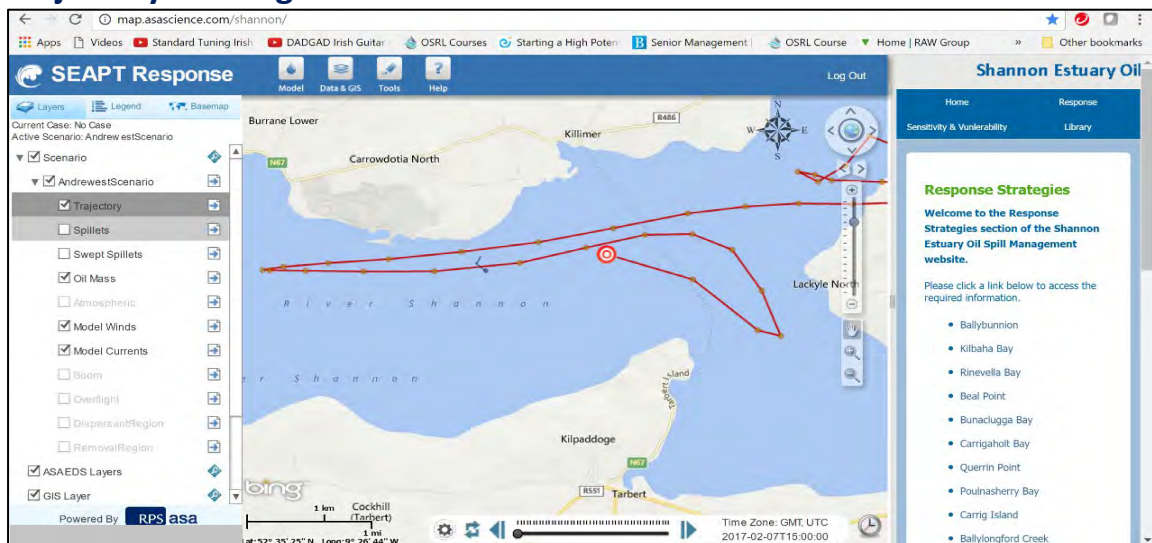
The Initial Incident Action Plans can be printed and issued to response personnel. The program allows for the plans to be updated with real-time data as well as modifications to the response objectives, strategies and tactics.

The following screen-shots and sample plans are given by way of example only. Specific Incident Actions Plans and Tactical Cards are stored within ASAScience OILMAP under the various locations and scenarios.

Initial Incident Page



Trajectory Plotting



Location Response Strategies:

The screenshot shows the SEAPT Response web application interface. On the left is a map of the Shannon Estuary with various layers like 'Trajectory', 'Oil Mass', and 'Model Winds' checked. On the right is a 'Response Strategies - Killimer' panel with the following data:

Shannon Estuary Clean-up Guidelines	
Name	Killimer Ferry Terminal
Latitude	52° 36' 37.707" N
Longitude	9° 22' 47.356" W
Grid reference	R066523 OPRU Photomap No. D9
Contact	
Ecological value	
Waders & wildfowl	<input checked="" type="checkbox"/>
Saltmarsh	<input type="checkbox"/>
Marine communities	<input type="checkbox"/>
Other ecological interest	<input type="checkbox"/>
Notes	
Waders in small tidal lagoon.	
Amenity / economic value	
Scenic coast	<input type="checkbox"/>
Recreational beach	<input type="checkbox"/>
Water sports	<input type="checkbox"/>
Marina / moorings	<input type="checkbox"/>
Angling	<input checked="" type="checkbox"/>
Fisheries	<input type="checkbox"/>
Oyster cultivation	<input type="checkbox"/>
Water abstraction	<input type="checkbox"/>
Notes	
Important ferry terminal with high tourist use in summer. Sea angling from the pier.	
Access	
Large vehicle	<input checked="" type="checkbox"/>
Small vehicle	<input checked="" type="checkbox"/>
4 WD	<input checked="" type="checkbox"/>
By foot	<input checked="" type="checkbox"/>
Foreshore type	
Sandy	<input type="checkbox"/>
Muddy	<input type="checkbox"/>
Saltmarsh	<input type="checkbox"/>
Pebble / Shingle	<input checked="" type="checkbox"/>

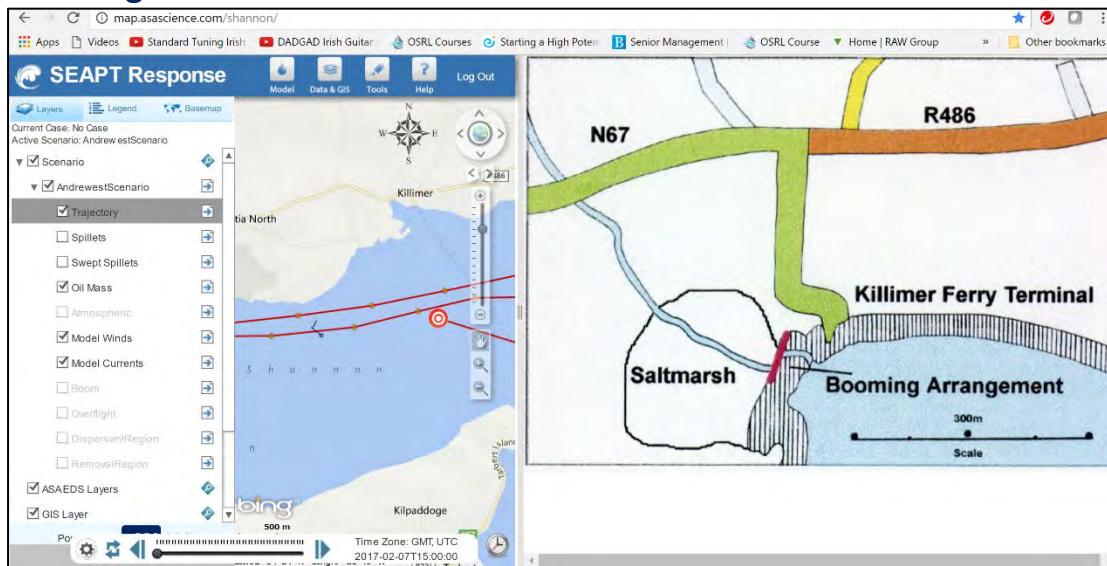
The screenshot shows the SEAPT Response web application interface. On the left is a map of the Shannon Estuary. On the right is a text panel for 'Site 8.30 Killimer Ferry Terminal OS 64 G.R. 064 524' with the following text:

On the western side of the slipway, from which the Tarbert Island ferry operates, is a narrow flood channel feeding an area of saltmarsh. [Pic 8.30.1](#).

Access: From the south shore the ferry at Tarbert provides direct access. Road access along the n67 from Kilrush terminates at the ferry port as does the R486. [Pic 8.30.2](#).

Booming Arrangement: To close off the flood channel at the entrance requires 30m Shoreguardian angled to deflect oil into the shore for recovery. [Pic 8.30.2](#).

Booming Plan



Example of Response Tactical Card:

HFO Spill at Fenit Port		Kerry County Council			
Date/ Time	12.15 - 30 th April, 2015	Beachmaster			
Location	Fenit Port	Wind Speed/ Direction	16 knots/South Westerly		
Latitude	52.2784	Tide High/ Low	HT : LT		
Longitude	-9.8612	Sunrise/ Sunset	06:11 / 21:00		
(Event Description)					
Release of approx. 200 tonnes of Heavy Fuel Oil from ship docking at Fenit Port.					
Notifications	COPO (County Oil Pollution Officer) to notify : i) KCC Management & Response Teams; ii) IRCG; iii) SFPC Pollution Officer; iv) Tier 2/3 contractor; v) SFPA & Oyster Growers; vi) NPWS; vii) RNLI Station Commander.				
Safety	Detail Safety Considerations for: <ol style="list-style-type: none"> 1. Site Safety - Safe work procedures need to include risk of working near/on water, risk of working in the vicinity of port/marina traffic, risk of working in the vicinity of vehicular traffic/machinery, slip/trips/falls; 2. Spilt Product – Risk of fire is low, however, debris (including glass bottles, sharps etc.) could become entrained in spilt HFO, therefore, need for heavy-duty gloves etc. Oiled debris can also be heavy, therefore, need for appropriate manual handling procedures. 3. Responders – Appropriate PPE to be worn at all times, no-smoking cordon to be established. 				
		Small, Local Event		Medium or Escalating Event	
		On Land	On Water	On Land	On Water
Responders S = Supervisors R = Responders M = Managers/ Specialists		S R M		S R M	
Equipment	Booms			Deploy a shore-guardian at the eastern corner of the Blue-Flag beach at Fenit (adjacent to the rock-armour/causeway)	Deploy absorbent boom (initial deployment), followed by entrapment boom to contain oil within harbour area.

Recovery				<p>Recover oil which comes ashore using appropriate methods :</p> <p>Sand – carefully skim oil off the surface using mechanical/manual methods and/or using lined-trench to entrap and recover;</p> <p>Shingle – use pressure washing and/or mechanical washing;</p> <p>Rock – Use pressure washing (if approved by NPWS) and vacuum pumps and absorbents;</p> <p>Marsh/Mud Flats – corale the oil and recover at high tide;</p> <p>Municipal/Port Structures (eg. Harbour walls, Rock-Armour etc.) – Hot water pressure wash (if approved by NPWS).</p>	<p>Deploy heavy-oil skimmers (eg. disc skimmers);</p> <p>Deploy the OSCAR within the Harbour;</p> <p>Manual recovery where possible.</p>
	Storage			As per on-water recommendations	<p>200 litre drums/IBCs;</p> <p>Skips lined with heavy duty plastic (seamless);</p> <p>Possible long-term storage at former North Kerry Landfill Site (subject to EPA approval).</p>
	Additional			Use spotters to check for any oil coming ashore.	Track the spill beyond the Harbour using launch and Coastguard helicopter.
First Action				<p>Warn other shipping of release;</p> <p>Run oil-spill model to identify possible extent and fate of spilt oil;</p> <p>Collect sample for analysis;</p> <p>Deploy Local Authority resources to site - equipment and manpower;</p> <p>Deploy absorbent boom (from KCC stockpile) across the mouth of Port;</p> <p>Request deployment of oil-spill response equipment from SEAPT stock-pile;</p> <p>Request assistance from Tier 2/3 contractor.</p>	

Preferred Strategies	<input type="checkbox"/> Monitor	<input type="checkbox"/> Cold Flushing	<input checked="" type="checkbox"/> Monitor	<input checked="" type="checkbox"/> Cold Flushing
	<input type="checkbox"/> Contain & Recover	<input type="checkbox"/> Hot Washing	<input checked="" type="checkbox"/> Contain & Recover	<input type="checkbox"/> Hot Washing
	<input type="checkbox"/> Mechanical	<input type="checkbox"/> Vacuum	<input checked="" type="checkbox"/> Mechanical	<input checked="" type="checkbox"/> Vacuum
	<input type="checkbox"/> Sorbents	<input type="checkbox"/> Dispersant	<input checked="" type="checkbox"/> Sorbents	<input type="checkbox"/> Dispersant
Prohibited Actions	<input type="checkbox"/> Monitor	<input type="checkbox"/> Cold Flushing	<input type="checkbox"/> Monitor	<input type="checkbox"/> Cold Flushing
	<input type="checkbox"/> Contain & Recover	<input type="checkbox"/> Hot Washing	<input type="checkbox"/> Contain & Recover	<input checked="" type="checkbox"/> Hot Washing
	<input type="checkbox"/> Mechanical	<input type="checkbox"/> Vacuum	<input type="checkbox"/> Mechanical	<input type="checkbox"/> Vacuum
	<input type="checkbox"/> Sorbents	<input type="checkbox"/> Dispersant	<input type="checkbox"/> Sorbents	<input checked="" type="checkbox"/> Dispersant
Community Considerations			RNLI; Fishing community; Oyster growers; Port-Customers (eg. Liebherr Cranes); Amenity users : swimmers, pleasure-boat owners, shore-fishing, walkers, play-ground users; Business owners (shops, bars, restaurants etc.).	
Wildlife Considerations			Birdlife - Special Protection Area; Wildlife – Special Area of Conservation; Designated Shellfish Area;	

CHAPTER 8

HAZARDOUS AND NOXIOUS SUBSTANCE

RESPONSE GUIDANCE

Issue
2

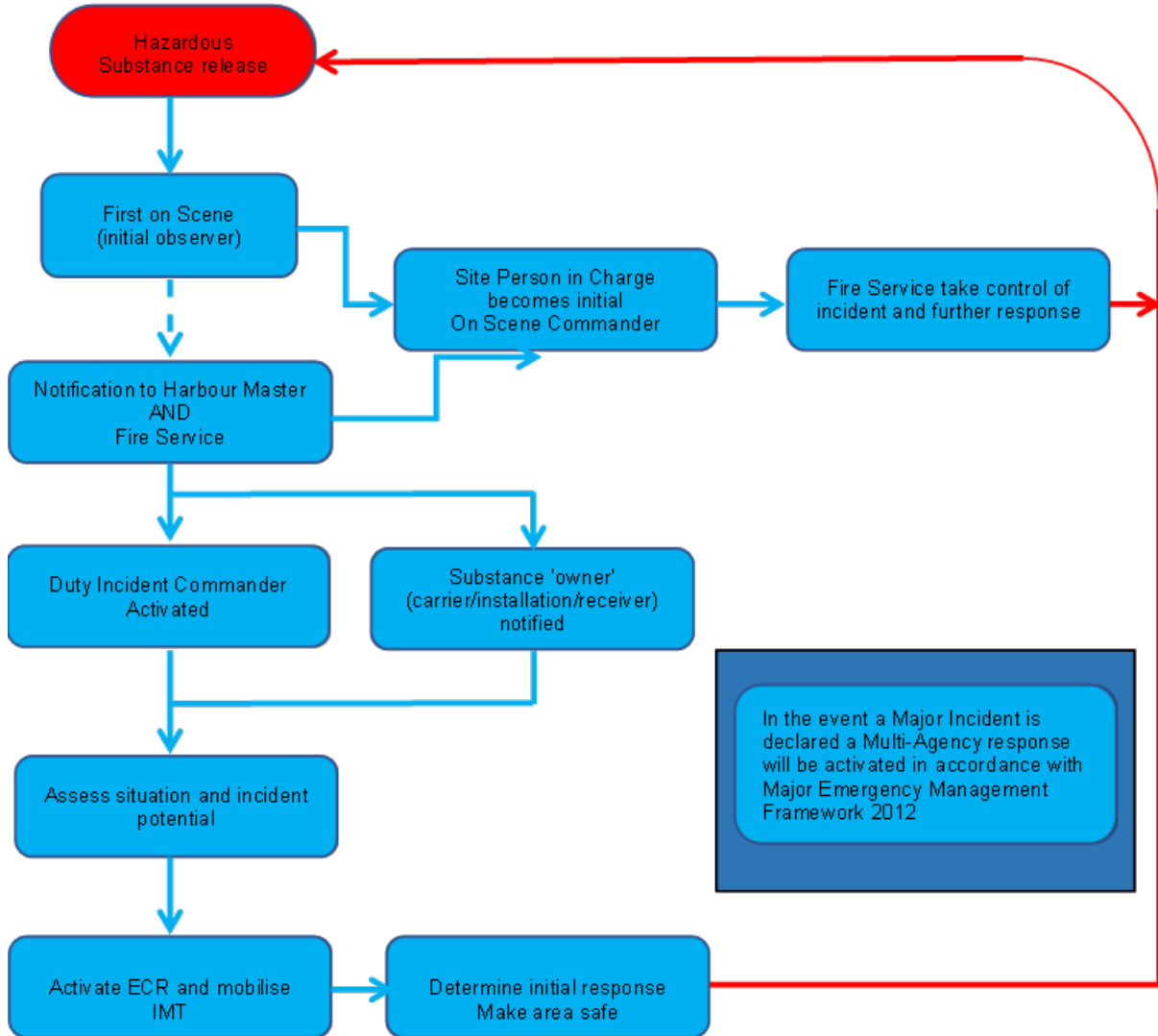
Date
Oct 2023

Status
For review

Page No
121

8 HNS Response Activation

**IN THE EVENT OF A HAZARDOUS SUBSTANCE INCIDENT CALL THE
DUTY HARBOUR MASTER
+353 697 3103 (DAYTIME) OR +353 (0)87 2542266 (OUT-OF-HOURS)
AND
FIRE SERVICE ON 999 OR 112**



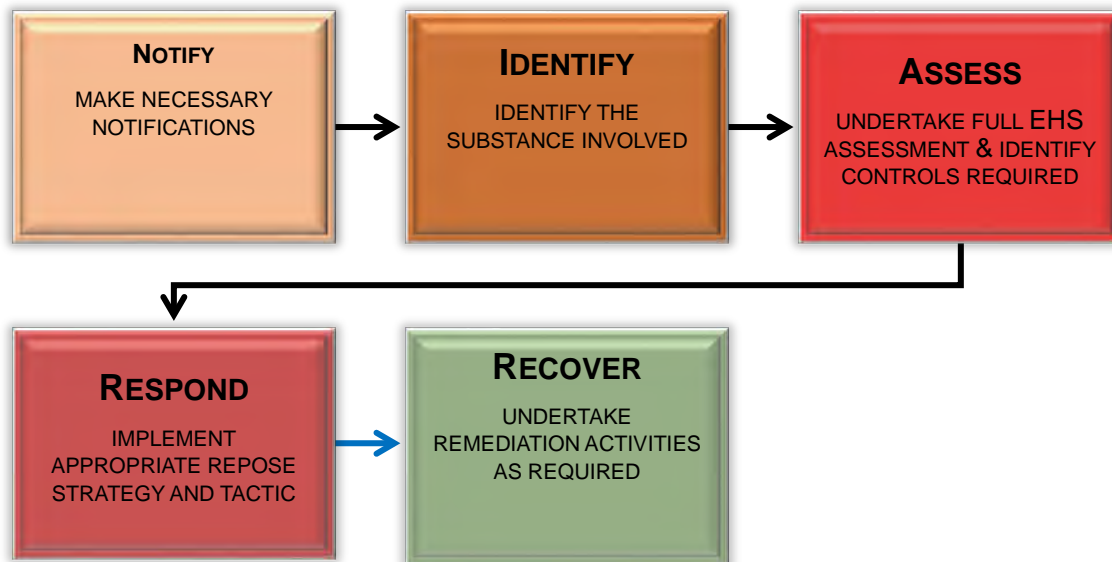
In the event a Major Incident is declared a Multi-Agency response will be activated in accordance with Major Emergency Management Framework 2012

The Primary Responses and Incident Command for HNS incidents rest with the Fire and Rescue Service

**On-Scene Commander should contact the AMBIPAR RESONSE 24 hr number
+ 353 (0)21 4351020 and ask for assistance.**

Chemical Incident Response Process

The major difference between a response to an HNS/Chemical incident and an Oil Spill is the specialist nature of the response required from the outset. Other than the initial emergency response at the time and scene of the release to protect life, any response will likely require specialist personnel and equipment.



- **NOTIFY** – notifications should be made as page 2 above and general notification process.
- **IDENTIFY** – it is critical to the management of the incident that the type of substance(s) is identified. The sections below provide detailed information on HNS/Chemical identification and labelling. Full use should be made of available data (MSDS/SDS) and manufactures guidance.
- **ASSESS** – a full Environmental, Health and Safety Risk Assessment should be undertaken prior to commencing a response. Priority is the Safety and Health of responders and other that may be affected – follow PEAR Principle.
- **RESPOND** – guidance on specific response strategies is given below.
- **RECOVER** – once the initial response phase has ended, it will be necessary to assess the need for decontamination and remediation of any contaminated land and material. This process may take a period of time.

Hazardous and Noxious Substances (HNS)

A Hazardous and Noxious Substance is a term used to describe a substance other than oil which, if introduced into the marine environment is likely to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea.

Whether a substance is classed as hazardous or noxious is largely determined by its inclusion in one or more lists found in a number of IMO Conventions and Codes designed to ensure maritime safety and prevention of pollution. If the chemical transported has one or more of the following properties, it is likely to be considered as a 'hazardous and noxious substance'. (Radioactive and infectious substances are outside the scope of the HNS regime.)

- Flammable
- Explosive
- Toxic
- Corrosive
- Reactive

Identification, Classification and Labelling

The Classification, Labelling and Packaging Regulations adopts the United Nations' Globally Harmonised System on the classification and labelling of chemicals (UN - GHS) across all European Union countries, including Ireland. GHS provides a basis for communicating information on hazards in a uniform way, overcoming differing labelling information requirements for the same chemicals around the world.

Classification is used to determine if a chemical can cause harm to human health and the environment. It involves the identification and evaluation of hazard information (physical properties, human health and environment effects), and communication of those hazards on a label and in a safety data sheet. All substances and mixtures manufactured or imported into the EU and placed on the EU market must be classified.

MARPOL CONVENTION

The MARPOL Convention is the main international convention covering prevention of pollution from the shipping industry. Within MARPOL are two annexes that are directly relevant to HNS:

Annex II

MARPOL Annex II contains regulations for bulk liquid cargos that may cause environmental pollution if lost at sea. Within the annex are four categories that are graded depending on the hazard the bulk liquid presents to marine resources, human health and amenities.

Category X – liquid substances which are deemed to present a major hazard to either marine resources or human health, and therefore justify the prohibition of the discharge into the marine environment.

Category Y – liquid substances which are deemed to present a *hazard* to either marine resources or human health or cause harm to amenities or other uses of the sea and therefore justify a limitation on the quality and quantity of the discharge into the marine environment.

Category Z – liquid substances which are deemed to present a *minor hazard* to either marine resources or human health and therefore justify less stringent restrictions on the quality and quantity of the discharge into the marine environment.

Category OS – these “other substances” are deemed to fall outside of categories X, Y, and Z and are deemed to present *no harm* to marine resources, human health, amenities or other uses of the marine environment.

Annex III

Annex III deals with the provisions for the prevention of pollution by harmful substances carried by seas in packaged form. As part of these regulations, any compounds that are environmentally harmful (known as marine pollutants) must be clearly marked and labelled as a ‘marine pollutant’ (see below) to distinguish them from less harmful cargos.



Human Health Aspects

Manufacturers of Hazardous and Noxious Substances typically provide Material Safety Data Sheets (MSDS) which summarise the specific hazards associated with each substance. Over time these will be replaced by Safety Data Sheets (SDS) under the UN Globally Harmonized System of Classification and Labelling of Chemicals (GHS)*. GHS classifies chemicals by the types of hazard they represent and proposes harmonized hazard communication by consistent labelling and safety data sheets. It aims at ensuring that information on physical hazards and toxicity from chemicals is available to enhance the protection of human health and the environment during the handling, transport and use of these chemicals.

MSDS AND SDS BOTH FOLLOW THE SAME FORMAT AND PROVIDE THE FOLLOWING INFORMATION

1	Identification	9	Physical and chemical properties
2	Hazards(s) identification	10	Stability and reactivity
3	Composition/Ingredients	11	Toxicology information
4	First-aid measures	12	Ecological information
5	Fire-fighting measures	13	Disposal information
6	Accidental release measures	14	Transport information
7	Handling and storage	15	Regulatory information
8	Exposure controls/PPE	16	Other information

Effects on Marine Resources

The effects of a chemical lost into the marine environment depend on a number of factors such as the toxicity of the material, the quantities involved and resulting concentrations in the water column, the length of time biota are exposed to that concentration and the sensitivity of the organisms to the particular chemical. Dilution is brought about by water movement due to tidal flow, ocean currents

and turbulent diffusion but even if the concentration is below what would be considered lethal, sub-lethal concentrations can still lead to longer term impacts. Chemically-induced stress can reduce the overall ability of the organism to reproduce, grow, feed or otherwise function normally. The characteristics of some chemicals, particularly metals and some organic compounds can result in the bio-accumulation of these materials. Sessile marine organisms that filter seawater for food, such as shellfish, are particularly vulnerable to this phenomenon. Bio-magnification may follow if the materials pass up the food chain.

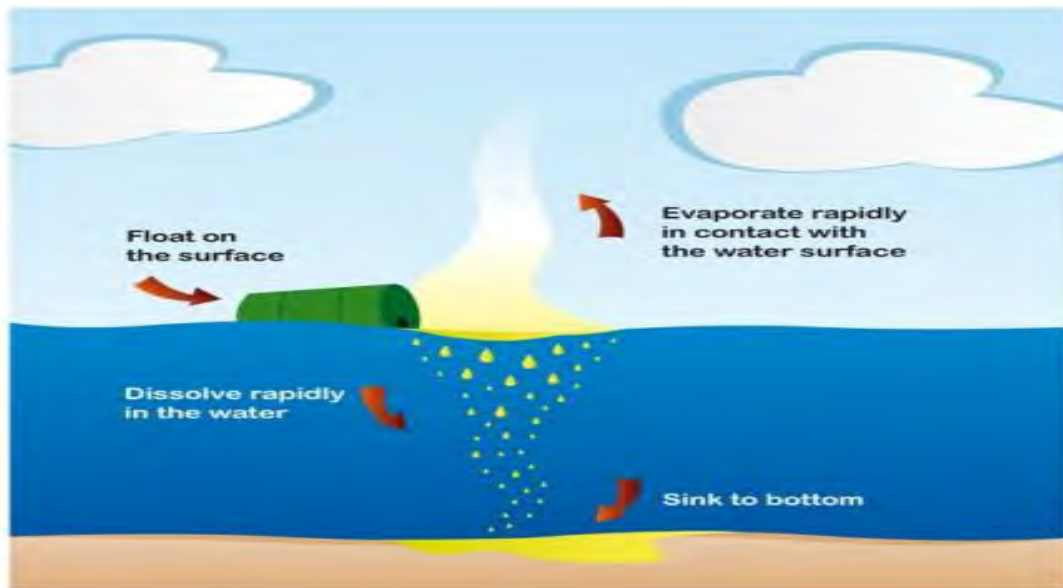
The properties of the chemicals have been evaluated in relation to a number of predefined effects should any of the listed chemicals be spilt at sea:

- Bioaccumulation
- Biodegradation
- Acute and chronic toxicity on marine organisms
- Long term health effects on humans
- Effects on marine wildlife, and on benthic habitats
- Effect on other marine resources

Fate of Chemicals in the Marine Environment

When chemicals are spilt, they behave in a number of different ways. It is important to understand this behaviour, not only so that human health and safety implications are recognised but also to decide on the most effective response. In simple terms, a substance behaves in one or more of five ways when spilt:

- Dissolve
- Evaporate
- Float
- Gas
- Sink



The 'fate' of a substance is determined by the properties of volatility, solubility and density and in turn, the nature of the hazard presented by the substance (toxicity, flammability, reactivity, explosive, corrosive). It also defines the most appropriate technique in dealing with it, e.g. it may be possible to contain and recover a chemical classed as a "floaters" using a boom. Classifying the substances depending on the properties they exhibit when released into the marine environment is therefore a useful response tool.

The classification system covers gases, liquids and solids. HNS showing similar behaviour in water can be grouped together and classified into the following 12 groups on the basis of the five behavioural characteristics – See Table below.

It is important to be aware that this system only classifies chemicals according to their major property/properties relevant to spill response and a chemical may also exhibit other properties e.g. Benzene is classed according to its major property (evaporator) but it is also soluble to a certain extent and so this too may need to be considered. The MSDS/SDS will provide detailed information.

European Classification System for Chemicals

	PROPERTY GROUP	PROPERTIES
G	GAS	EVAPORATE IMMEDIATELY
GD	GAS/DISSOLVER	EVAPORATE IMMEDIATELY
E	EVAPORATOR	FLOAT, EVAPORATE RAPIDLY
ED	EVAPORATOR/DISSOLVER	FLOAT, EVAPORATE
FE	FLOATER/EVAPORATOR	FLOAT, EVAPORATE
FED	FLOATER/EVAPORATOR/DISSOLVER	FLOAT, EVAPORATE, DISSOLVE
F	FLOATER	FLOAT
FD	FLOATER/DISSOLVER	FLOAT, DISSOLVE
DE	DISSOLVER/EVAPORATOR	DISSOLVE RAPIDLY, EVAPORATE
D	DISSOLVER	DISSOLVE RAPIDLY
SD	SINKER/DISSOLVER	SINK, DISSOLVE
S	SINKER	SINK

Chemical Response Strategies

Response strategies eventually largely dependent on the specific circumstances of the incident, advice and guidance by the substance owner/carrier/manufacture, MSDS/SDS information.

In the event of a major incident SEA-PT HNS response advisors BRAEMER RESONSE can be consulted on 24 hr number at 00 44 1646 69704

Any response will be coordinated with the Fire and Rescue Service.

ITOFT provide the following general guidance for the various groups of chemicals identified above.

Gas & Evaporators

the release of a gas or chemical substance evaporating under the weather conditions prevailing at the time have the potential to generate large vapour clouds that might be toxic or form an explosive mixture with air. As a result, there may be potential health and safety implications for the vessel crew, responders and population nearby.

In order to plan a response, it is important to know how the gas or vapour will behave and the likely trajectory of the hazardous cloud. Relevant computer modelling of the spreading of airborne

contaminants is likely to help to forecast the movement and fate of the plume as it disperses. Appropriate safety zones can then be put into place as necessary and the public advised as appropriate.

Issuing advice to the public to remain indoors for a short period may be given by the authorities. If the chemical is of a flammable nature, then all ignition sources must be eliminated. Techniques such as trying to “knock down” a water-soluble vapour cloud or trying to stop or deflect it using water sprays are other measures that may be available to responders. In such incidents occurring near populations, the fire brigade are likely to have the commanding role in the response.

In any case, responders must wear the appropriate Personal Protective Equipment (PPE) and response / monitoring crafts must be adequately designed should they need to enter the hazardous atmosphere.

Chemicals that dissolve

A dissolving chemical will form a growing ‘plume’ of decreasing concentration in the water and eventually dilute. It is important to monitor the concentrations in the water to track the movement of the chemical and therefore to predict any hazard that may arise to the environment, fisheries, fresh water intakes, recreational areas, etc. Again, relevant computer models can give useful indications on the likely fate of the substance.

The ability to contain and recover dissolved chemicals is extremely limited. Providing means to accelerate the natural processes of dispersion and dilution may be the only way to respond to such chemicals. Some dissolved chemical plumes may, in theory, be neutralised, oxidised, flocculated or reduced by the application of other chemicals. However, careful assessment of feasibility and expected efficiency in an open environment as well as approval of the relevant authorities is usually required before this response method is employed.

Chemicals that float

Chemicals that float will spread under the effect of gravity to form a slick in a similar way to oil. However, unlike oil they may not be visible on the water. Nevertheless, in some cases remote sensing techniques may be employed to detect and monitor floating materials.

Floating chemicals can be low or high viscosity liquids or may even be solid. If the spilt chemical has a high vapour pressure it may evaporate quickly and form a gas cloud above the slick. In such cases air quality monitoring is usually undertaken to assess fire, explosion and toxicity risks.

It may be possible to consider deploying booms to contain and control the movement of substances over the water surface. Skimmers and other oil spill response equipment may also be used to recover the material from the surface of the water. However, it is important to make sure, prior to use, that the spilled chemical will not react with the equipment by taking into account the chemical's reactivity. Alternatively, emergency responders may have fire-fighting or suppressant foams that can be applied to reduce the evaporation and the risk of fire/explosions.

Again, responders must wear the appropriate Personal Protective Equipment and response / monitoring crafts must be adequately designed should they need to enter a hazardous atmosphere.

Chemicals that sink

Chemicals that sink have the potential to contaminate the seabed, and sometimes to persist in the sediment. The response to sunken chemicals may, therefore, need to consider the recovery of the chemical and any heavily contaminated sediment. Careful attention will also need to be paid to the removal and disposal of these contaminated sediments.

In shallow waters, mechanical dredgers and pump/vacuum devices may be used to recover sunken substances. The use of submersibles and remotely controlled underwater cameras may identify and recover chemicals on the seabed.

CHAPTER 9

DISPERSANT USE

Issue
2

Date
Oct 2023

Status
For review

Page No
132

9 Dispersant Use:

Guidance on the legal basis for the approval, authorisation, deployment and use of oil spill control agents (dispersants) may be found in SOP 03-2020 on the National Maritime Oil/HNS Sill Contingency Plan.

Dispersants are chemical agents that help break up an oil slick into very small droplets, which dilute throughout the water. While this does not remove the spilled material, smaller oil particles are more easily biodegraded, and it provides a measure of protection for sensitive habitats threatened by a surface slick.

Dispersants are sprayed onto spills by specially equipped boats or aircraft.

Dispersants are one of several tools available to combat oil spills and are a necessary component of an effective response to large volume offshore spills when used appropriately. Its application, both surface and subsurface, is a critical element in preventing significant oiling of sensitive shoreline habitats during an oil spill response.

Oil Spill chemical dispersant **may not be used without the authorisation of the Irish Coast Guard** unless it is deemed that the **immediate situation requires its use to prevent or reduce substantial hazards to human life and to reduce substantially explosion or fire hazard to property.**

Where any dispersant is used the Irish Coast Guard are to be informed immediately.

Authorisation for Use

The decision to use dispersants will be on a case-by-case basis. The use of dispersants in shallow waters, bays, harbours, and inlets may not be authorised except in exceptional circumstances.

Dispersant spraying must be authorised by the Irish Coast Guard. Irish Coast Guard must consult with nominated State Bodies before authorising dispersant use in the following areas:

- Water depths less than 30m
- Inside the straight base lines and the mainland that is within one nautical mile of charted banks.

CHAPTER 10

HEALTH AND SAFETY

Issue
2

Date
Oct 2023

Status
For review

Page No
134

10 Health and Safety

Protection of human health and safety are fundamental objectives in any emergency response operation. The safety of all responders should supersede all other considerations during an oil spill clean-up. The use of safe work procedures and practices help to reduce health and safety risks to the response workers, the surrounding community (onlookers), and the environment. Curtailing access to affected areas is an important means of protecting the public by avoiding exposure to risks created by the incident. Basic health and safety procedures are outlined in this section to reinforce training and procedures common to most emergency response operations.

All national Occupational Health and Safety regulations apply to emergency response events. It should be borne in mind that all personnel involved in emergency response activities under the direction of the Incident Commander and his team, will be deemed as 'employees' and therefore within the remit of all such regulations.

The responsibility to comply with the requirements lies with the employer. A major requirement is to systematically identify and control hazards. Significant hazards must be controlled by elimination, isolation and minimisation. All hazards must be identified. The hazards must then be assessed to determine the risk involved and an appropriate control measure imposed.

Health and Safety Responsibilities

Overall accountability for the Health and Safety of those responding to an incident, members of the public and others that may be affected by the incident or response activities rests with the Incident Commander.

Individual Section Chiefs and Team Leads are responsible for the Health and Safety of those under their direction. They should ensure, so far as is reasonably practicable that all hazards are identified, controlled and mitigated. They will provide suitable and sufficient information, instruction, training and supervision to those under their control.

All those involved in response activities have a responsibility to take reasonable care of their own health and safety and to co-operate with response command team, making use of training and to ensure that they understand and follow all instructions.

Hazard management

A systematic hazard identification and assessment shall be carried to evaluate workplace safety. A daily Safety Plan shall be developed for the overall response, and specific Site Safety Plans, should be developed for operational area and activity of more than a minor nature.

All identified hazards will be assessed to determine their potential to cause serious harm in line with SFPC Risk Assessment process.

A 'significant hazard' means a hazard that is an actual or potential cause or source of:

- serious harm.
- harm, more than trivial, the severity of whose effects depend on the extent or frequency of exposure to the hazard; or
- harm that usually is not easily detectable, until a significant time after exposure to the hazard.

Accident Reporting, Investigation, and Rehabilitation

The terms incidents and accidents, in this context, include all "near miss" or "near hit" events, work related illness and injury events, that harmed or might have harmed any employee, and others, during the course of their work onsite. All incidents and accidents shall be reported and investigated in line with SFPC processes and procedures.

Emergency planning and readiness

Although the oil spill may be deemed an emergency in itself, an assessment should be made of the potential emergency situations that may occur involving the response organization. A suitable emergency plan should be developed and approved by the Incident Commander.

Site Specific Health and Safety Assessment Form:

Site Safety Plan				
Incident:	Prepared By:	at:	HR	
Period: _____ to _____	Version Name: _____			
Applies to Site:				
Products:				(Attach MSDS)
Site Characterization				
<input type="checkbox"/> Marine vessel <input type="checkbox"/> Pipeline <input type="checkbox"/> Storage facility <input type="checkbox"/> Truck/Rail car <input type="checkbox"/> Other _____				
Water	<input type="checkbox"/> Ocean	<input type="checkbox"/> Bay	<input type="checkbox"/> River	<input type="checkbox"/> Creek
	<input type="checkbox"/> Canal	<input type="checkbox"/> Wetlands	<input type="checkbox"/> Shoreline	<input type="checkbox"/> Other _____
	<input type="checkbox"/> Muddy	<input type="checkbox"/> Sandy	<input type="checkbox"/> Rocky	
Land	<input type="checkbox"/> Mountains	<input type="checkbox"/> Hills	<input type="checkbox"/> Brushland	<input type="checkbox"/> Forest
	<input type="checkbox"/> Other _____	<input type="checkbox"/> Grassland		
Use	<input type="checkbox"/> Public	<input type="checkbox"/> Government	<input type="checkbox"/> Residential	<input type="checkbox"/> Commercial
	<input type="checkbox"/> Recreational	<input type="checkbox"/> Industrial	<input type="checkbox"/> Farmland	<input type="checkbox"/> Other
(See Attachment Site Map)				
Weather	Water Temp _____°F	Air Temp _____°F	Wind Speed _____ mph	Wind Dir. _____ (From)
	<input type="checkbox"/> Rain	<input type="checkbox"/> Snow	<input type="checkbox"/> Ice	<input type="checkbox"/> Fog
	<input type="checkbox"/> Other _____			
Pathways for Dispersion	<input type="checkbox"/> Air	<input type="checkbox"/> Water	<input type="checkbox"/> Land	<input type="checkbox"/> Other _____
Site Hazards	<input type="checkbox"/> Boat Safety	<input type="checkbox"/> Fire, Explosion, In-Situ Burning	<input type="checkbox"/> Pump Hose	
	<input type="checkbox"/> Chemical Hazards	<input type="checkbox"/> Heat Stress	<input type="checkbox"/> Slips, Trips, and Falls	
	<input type="checkbox"/> Cold Stress	<input type="checkbox"/> Helicopter Operations	<input type="checkbox"/> Steam and Hot Water	
	<input type="checkbox"/> Confined Spaces	<input type="checkbox"/> Lifting	<input type="checkbox"/> Trenching/Excavation	
	<input type="checkbox"/> Drum Handling	<input type="checkbox"/> Motor Vehicles	<input type="checkbox"/> UV Radiation	
	<input type="checkbox"/> Equipment Operations	<input type="checkbox"/> Noise	<input type="checkbox"/> Visibility	
	<input type="checkbox"/> Electrical Operations	<input type="checkbox"/> Overhead/Buried Utilities	<input type="checkbox"/> Weather	
	<input type="checkbox"/> Fatigue	<input type="checkbox"/> Plants/Wildlife	<input type="checkbox"/> Work Near Water	
	<input type="checkbox"/> Other: _____	<input type="checkbox"/> Other: _____	<input type="checkbox"/> Other: _____	
	(See Attachment – Site Hazards for more information)			
Air Monitoring	%LEL _____	%O2 _____	PPM Benzene _____	PPM H2S _____
	Other (specify) _____			
See Attachment – Monitoring Results/Methods				
Control Measures				
Engineering Controls	<input type="checkbox"/> Source of release secured	<input type="checkbox"/> Valve(s) closed	<input type="checkbox"/> Facility shut down	
	<input type="checkbox"/> Site secured	<input type="checkbox"/> Energy sources locked/tagged out	<input type="checkbox"/> Other	
Personal Protective Equipment (PPE)	<input type="checkbox"/> PVC suits	<input type="checkbox"/> PE/TYVEK suits	<input type="checkbox"/> Respirator _____	
	<input type="checkbox"/> Nitrile gloves	<input type="checkbox"/> PVC gloves	<input type="checkbox"/> Eye protection _____	
	<input type="checkbox"/> Rubber boots	<input type="checkbox"/> Hard hats	<input type="checkbox"/> Other _____	
(See Attachment – PPE)				
Additional Control Measures	<input type="checkbox"/> Decontamination	<input type="checkbox"/> Stations established	(See Site Map and Attachment-Decontamination)	
	<input type="checkbox"/> Sanitation	<input type="checkbox"/> Facilities provided – OSHA CFR 1910.120(n).		
	<input type="checkbox"/> Illumination	<input type="checkbox"/> Facilities provided – OSHA CFR 1910.120(m).		
	<input type="checkbox"/> Medical Surveillance	<input type="checkbox"/> Provided – OSHA CFR 1910.120(f).		
Site Safety Plan				

Site Safety Plan (Continued)			
Incident:		Prepared By:	at: HR
Period: to		Version Name:	
Work Plan			
<input type="checkbox"/> Booming	<input type="checkbox"/> Skimming	<input type="checkbox"/> Vacuum trucks	
<input type="checkbox"/> Pumping	<input type="checkbox"/> Excavation	<input type="checkbox"/> Heavy equip.	
<input type="checkbox"/> Sorbent pads	<input type="checkbox"/> Shoring	<input type="checkbox"/> Patching	
<input type="checkbox"/> Hot work	<input type="checkbox"/> Appropriate permits issued	<input type="checkbox"/> Other _____	
(Buddy System must be used.)			
Training			
<input type="checkbox"/> Verified site workers trained			
(See Attachment – Training Program)			
Organization			
Title	Name	Telephone/Radio	
		() - -	
		() - -	
		() - -	
		() - -	
		() - -	
		() - -	
Emergency Plan			
<input type="checkbox"/> Alarm system:			
<input type="checkbox"/> Evacuation plan:			
<input type="checkbox"/> First aid locations:			
Notify the following as soon as possible:	Location		Phone
	Hospital:		() -
	Ambulance:		() -
	Air Ambulance:		() -
	Fire:		() -
Police:		() -	
(See Site Map and Attachment-Site Emergency Response Plan)			
Pre-Entry Briefing			
Hazards discussed (attach training documentation)			
Other topics:			
Date/Time Completed:		By:	
Site Safety Plan (Continued)			

CHAPTER 11

WILDLIFE RESCUE AND REHABILITATION

11 Wildlife rescue and rehabilitation

SFPC and SEAPT are committed, through the development of spill response objective, strategies and tactics, to the protection on wildlife within the Shannon Estuary that may be affected by a release of oil and HNS substances or material.

SFPC and SEAPT do not have any trained oiled wildlife response personnel and therefore would require additional support and resources from the IRCG and EUROWA.

Notwithstanding the above statement, the following describes that overall philosophy, considerations and actions required to ensure that Incident Management and responding personnel are familiar with wildlife response requirements.

There are a variety of wildlife species present which would be placed at risk and made vulnerable if a spill incident were to occur within the Shannon Estuary. Notably, birds would be extremely susceptible due to the risks presented to their plumage and potential ingestion. Some birds would be less vulnerable on land, but more vulnerable at sea/water when rafting.

When planning a response, incident management teams, in particular Operations Section personnel, should be fully appraised of the local, on-scene situation, up-to-date SCAT reports and local intelligence on wildlife activities as may be available.

However, for instances when this is not achievable, potentially due to the scale or complicating factors of the incident, further secondary and tertiary wildlife response options may be required, as detailed below:

Wildlife Reconnaissance - evaluating the wildlife that has become involved in the incident or is at risk of becoming involved, this should be undertaken throughout the response and undertaken by wildlife specialists in conjunction with the contents of this OSCP;

Primary Response - maintaining the spill away from the wildlife. This can be achieved through utilising the response strategies detailed within Chapter 7. Additional resources may be required from SEAPT Tier 2 response contractor or the IRCG to control or deflect the spill away from wildlife habitats and populations;

Secondary Response - maintaining the wildlife away from the spill. This includes hazing and deterrence methods (scaring animals away from oil) and the pre-emptive capture and collection of un-oiled animals and their offspring or eggs;

Tertiary Response - rescuing, and rehabilitating wildlife exposed to the spill.

Documentation - maintaining detailed records and transparency in all information, decisions and activities involved in the wildlife response.

Wildlife Response Strategy

An overview of SFPC/SEAPT wildlife response strategy and key considerations during the rescue and rehabilitation of oiled wildlife is given below:

Action Required	By Whom	Notes
<ul style="list-style-type: none"> Identify if wildlife will be impacted. Deploy response strategies to mitigate impact to wildlife. Notify Oiled Wildlife Network. 	<ul style="list-style-type: none"> IMT (Tier 2/3) ERT (Tier 1) 	<ul style="list-style-type: none"> Identify if wildlife will be impacted. Deploy response strategies to mitigate impact to wildlife. Notify Ambipar Response and IRCG
<ul style="list-style-type: none"> Notify response personnel not to recover oiled wildlife and seek specialist assistance. Notify response personnel to collect any deceased wildlife. 	<ul style="list-style-type: none"> IMT (Tier 2/3) ERT (Tier 1) 	<ul style="list-style-type: none"> All deceased animals should be recovered, recorded and sent for autopsy.
<ul style="list-style-type: none"> Liaise with oiled wildlife response specialists and develop action plans. Develop notification number for responders to notify oiled wildlife specialists of oiled wildlife and their location. 	<ul style="list-style-type: none"> EMT (Tier 2/3) ERT (Tier 1) 	<ul style="list-style-type: none"> Response efforts should be combined to reduce the overall environmental impact of the incident. Prompt response and notification of oiled wildlife response teams may increase the overall likelihood of an oiled wildlife response.

In the event of a significant Tier 3 spill event, SFPC and SEAPT members may be required to make provision alongside the IRCG for involvement of the EUOWA as stated within the NMOSCP.

CHAPTER 12

EVIDENCE COLLECTION

Issue
2

Date
Oct 2023

Status
For review

Page No
142

12 Evidence Collection

This section has been completed giving cognisance to and referencing the European Maritime Safety Agency (EMSA) document:

[Interdisciplinary Practical Guidelines on Oil Spill Sampling in Europe \(2024\)](#)

... 'These practical guidelines are intended to provide best practice guidance and are non-binding. Nothing in this guidance document should be construed as generating mandatory or legal requirements on any of the involved parties' ...

General

It is important to always initiate sampling before clean-up measures are started. Not only can sample analysis give important support information for the planning of response and cleanup work, but for oil identification it is crucial to secure unbiased and uncontaminated oil samples. All spills encountered and all potential sources of spills should be sampled. It is important to take samples from both spill and source even on occasions where it seems quite clear from where the spill originates. Background locations nearby, meaning sites where oil contamination is not apparent and that share environmental characteristics such as temperature and salinity with the contaminated site, should also be sampled to determine background conditions of the contaminated site (background samples / field blanks).

It is important to keep in mind that each oil spill incident is unique, and response actions are adapted to each situation in accordance with national regulations.

Oil spill identification is conducted by specialised laboratories in order to determine whether a relationship exists between spilled oil samples and suspected source samples. Where there is no suspected source, chemical investigations can be of great help in identifying possible sources.

Note: The word 'Oil' is used throughout this document to mean either crude oil, a petroleum product or mixture of such.

Samples can be taken from the water surface, suspected polluter or the shoreline.

- It is important to take samples from **both spill and source** even when it is clear where the spill originates from.
- Sampling in relation to **liability investigations** must be performed with great care and under strict chain of custody control until identification and possible legal procedures have been completed. They must be handled and stored so that the samples cannot be manipulated, mixed up or be contaminated by other substances.

- It is advisable to collect several samples in the spill area; even in small spills at least 2 samples should be taken. If any part of the oil **spill differs from other parts**, extra samples should be taken to determine if more than one spill has occurred in the area.
- If the spill response continues over several days, samples should be taken **every day** to make it possible to determine the degree of weathering as well as possible contamination by other oils.
- Surface waters in estuaries and harbours may contain traces of various petroleum products. When spills in such waters are sampled, it is therefore important to provide the laboratory with **blank** samples of the water.
- Sampling kit containing the clean equipment and bottles containing samples must be kept strictly separate.
- Make notes of all relevant information about samples and sample site. See Annex A for Sample Record Form.
- Take photographs of observations that might be considered important to the investigation.
- A specific objective of all monitoring programmes is to ensure that work is undertaken in a safe manner. Always wear appropriate PPE. e.g. disposable gloves, (Nitrile gloves where hydrocarbon levels are expected to be high),
- Protective clothing/high visibility vest, - communications equipment, - buoyancy aid respirator (if a large amount hydrocarbon or any HNS are present)

Oil Spill Sampling Team

The oil spill sampling team forms part of the Environmental Section within the Planning Section. The team should comprise a Sample Coordinator and Sample Takers.

Sample Coordinator:

The sample coordinator is responsible for establishing a sampling plan, considering the pollution, the (known or possible) source(s) and the available mobilization of units and sample takers.

Tasks of the sample coordinator can include:

- Designing a sampling plan (if suitable including a map with sampling points) for the specific incident, specifying the location and amounts of samples to be taken:
 - from the different pollution spots considering the duration of the spill
 - from the known source or possible sources

- background samples/field blanks
- Coordinating the sample takers
- Providing the sampling kits and when needed, replacing the sampling equipment
- Coordinating the delivery of the samples to the appropriate laboratories for the required analysis/storage
- Providing information about appropriate storage condition of samples during storage/before delivery
- Managing the relationship with the laboratory and the coordination with other organisations involved
- Providing advice for sample takers about relevant safety measures

Sample Takers

Oil samples should always be taken exclusively by well-trained and experienced persons. Since sampling is the crucial key activity for the forensic analysis of oil spills, it should be ensured that sample takers are regularly trained and up to date with regulation changes and informed about new sampling equipment and its proper use. Furthermore, sample takers must be carefully trained in proper sample documentation.

Mistakes made during sampling are not correctable at a later stage, thus the correct sampling is the basic prerequisite for all legal proceedings.

Tasks of the sample taker can include:

- Taking the samples in accordance with the sampling plan
- Documenting and properly labelling and sealing the sample(s)
- Communication with the laboratory
- Preparing the sample for transport and/or assuring correct storage during storage time before transport.

Oil Spill Sampling

Get as close to the surface as possible and put on clean disposable Nitrile gloves.

- Globules, balls and thick layers >1mm can often be sampled directly into a wide mouth glass bottle, if necessary fixed to a wooden pole.
- Fill the bottle with as many balls as possible or skim oil from the surface by repeated sweeps with the bottle. Drain off the water from the bottle for instance by closing the lid and holding bottle upside down for a minute to let oil float upwards. Then the water can be drained by careful opening of the lid. Repeat skimming the oil from the surface until approx. 50-70ml have been gathered.

Aluminium beaker, PTFE sampling bucket or funnel

- Using an Al- beaker with a small hole on one end, a PTFE bucket with a number of small diameter holes drilled in the base to allow water to drain away, or a funnel, lower it to the sea surface and fill.
- Lift up and drain off free water. Transfer by using wooden spatula over to the wide mouth glass bottles.

Sampling Oil Layers less than 1mm and sheens using ETFE net

- Sweep the surface of the water with a ETFE net attached to a rod and line with a new clean clip. After sufficient sweeps of the water's surface, remove the ETFE sheet and place it directly into a wide mouth glass jar. Take care not to contaminate the sheet during this operation.
- An unused ETFE sheet should also be sent to the laboratory as the blank during analysis.

Sampling beaches, rocky shores, river banks and harbour structures

- Use disposable wooden spatulas to scrape oil off above structures and place it directly into a wide mouth sample container, ideally glass, alternatively a HDPE bottle.

Samples from oiled animals

- Never take whole animal samples, body tissues etc. which are likely to rot during shipment. Instead try to cut off contaminated feathers or fur and place directly into a glass sample container.

Sample information, documentation, and transport

All samples must be clearly and uniquely marked. All the sampling details are to be recorded on a sample record form (example Annex A).

- Label sample bottles fully on the side of the bottles with time, date, site name, sampling location and name of sampler.
- If samples are taken in the context of a liability investigation, the sample bottles must be placed in individually sealed evidence bags that are to be labelled with sample number, seal number, date and time of sampling, detailed sampling location and where possible grid reference, name and contact details of sampler.
- The sample container in their sealed and numbered evidence bags should be placed in a transport box. The box should be sealed with tape and transported to the laboratory as quickly as possible, maintaining a chain of custody at all times (see Annex B, COC). If the transmission is delayed, the samples should be kept at max. 4C.
- On receipt at the laboratory the COC form will be signed and dated and seals checked. The samples are stored in a chilled environment until log in to our Laboratory Information Management System (LIMS) takes place by trained staff.

Sampling Equipment checklist

- Disposable Nitrile gloves
- Wide mouth glass bottles
- Aluminium beaker, PTFE funnel or PTFE bucket with holes in the bottom
- Wooden spatula
- Holder to fix glass jar to wooden pole.
- Wooden pole or Telescopic rod
- Teflon[®] sheets
- Line and wooden clip for attaching ETFE sheet to the line.
- Sample labels
- Seals, numbered.
- Inert plastic bags, with labels if required.
- Wiping clothes
- Large plastic bags for used disposable items.
- Sample record forms
- Chain of Custody forms
- Suitable PPE
- Communication equipment
- Digital Camera
- GPS/Maps if required.
- Pens & Waterproof marker
- Tape

Analytical Method

The analysis carried out by CLS will be according to guidelines approved by the network of experts on oil spill identification within the Bonn-Agreement (Bonn-OSINET).

The analysis is based on the CEN/TR 15522-2:2012 Oil Spill Identification – Waterborne petroleum and petroleum products.

Analytical methodology and interpretation of results based on GC-FID and GC-MS analyses.

Annex A: Sampling Record Form

Sample No.	
Seal No.	
Date & time of sampling	
Sampling location & Grid Ref. if available	
Wind direction and speed	
Air temperature	
Water temperature	
Sampler with contact details	
Sampler Signature	
Name & Contact of person receiving the sample	
Date and Time when sample was received & Signature:	

Annex B: Chain of Custody Form

<u>THIS SECTION TO BE COMPLETED BY SAMPLER</u>	
Sample No.	
Seal No.	
Date & time of sampling	
<u>THIS SECTION TO BE COMPLETED BY PERSON TRANSPORTING THE SAMPLE</u>	
Collection Point	
Date & Time collected	
Method of transport	
Courier Company	
Driver's Name	
Drivers Signature	
<u>THIS SECTION TO BE COMPLETED BY LABORATORY RECEIVING THE SAMPLE</u>	
<i>Sample and Seal number verified and the seal checked and found to be intact</i>	Yes: No:
<i>Name of Laboratory Person receiving the sample</i>	
<i>Date and Time when sample was received in Lab & Signature</i>	

CHAPTER 13

WASTE MANAGEMENT

Issue
2

Date
Oct 2023

Status
For review

Page No
152

13 Waste Management

THIS SECTION SHOULD BE READ IN CONJUNCTION WITH SFPC AND AFFECTED SEAPT MEMBER WASTE MANAGEMENT PLAN AND ASSOCIATION PROCEDURES.

Introduction

Most oil spills generate a lot of waste. This includes not just oil, but oiled cargo, debris, shoreline sediment, fauna and flora, equipment and protective clothing (PPE). Waste can sometimes amount to as much as ten times the volume of oil originally spilled. As a consequence, waste can cause major logistical problems and delays for the clean-up operation and even bring the response to a standstill unless adequate arrangements are in place to deal with it.

Pre-Planning

Options for handling waste need to be considered even before an incident occurs, i.e. when preparing oil spill contingency plans. This means that in the event of a spill, decisions can be made quickly on appropriate and available methods for treating or disposing of the waste, as well as options for its storage and transport. Plans should be updated regularly to include any changes in local regulations.

Waste Management Hierarchy

Prevent Waste: Consideration should be first given to techniques that avoid or eliminated the production of waste such as containment at source

Reduce Waste: Development of efficient methods to minimise the amount of material used and/or contaminated

Reuse Waste: The reuse of an item for its original purpose (clean-up equipment, PPE)

Recycle Waste: The production of marketable product from waste by recovering calorific value

Dispose: waste that cannot be dealt with may be disposed through landfill, incineration, or composting

Types of Waste

At the start of an incident, it helps to have a realistic estimate of how much waste there is likely to be and what it is likely to comprise of.

Typically, a HNS spill will generate less waste than an oil spill, however this is relative to the type of substance spilt, the quantity and concentration. Instinctively some products are subject to 'quick clean ups', which usually coincides with how hazardous the product is, the approach to be taken and how

much product is spilt. It is also important to note that a gas spill from a chemical tank will create much less waste than a liquid oil spill for instance.

The clean-up process itself also generates waste, with used response materials, such as sorbents, PPE, waste bags and other material considerations, adding to the volume to be removed. In the result of a large-scale spill, sediment samples may have to be taken, and remedial activities may have to be undertaken, these processes will in turn also heavily increase the waste generation.

The severity of contaminated soils in relation to hazardous waste storage and transportation is detailed within the [EPA'S National Hazardous Waste Management Plan \(2014 – 2020\)](#).

Different types of waste are often disposed of differently, so it helps to separate out the waste and keep it segregated from the outset. This is not always easy, but it saves time in the long run and makes it much easier to direct the waste towards the appropriate treatment or disposal method.

Types of Hazardous Waste			
Liquid Oil		Contaminated Seaweed	
Contaminated Sand		Contaminated Solid Waste	
Contaminated Substrate		Container Debris	
Spent Sorbent		Contaminated Fauna	

Waste Management Options

Disposal sites for solid waste are very limited in the Republic of Ireland and any disposal method will have to be agreed with the Local Authority and the Department of Environment. If a disposal route is not immediately available, it will be necessary to provide temporary storage from which there is no seepage.

The overall approach when dealing with waste from an oil spill is the same as with any type of waste, i.e. reduce, reuse, recycle by:

- Minimising the amount of oily waste collected by using selective clean-up techniques, where suitable, so that clean material is not picked up along with oiled. Close supervision of the workforce helps in this respect.
- Washing and re-using equipment and resources, where possible.
- Reprocessing oil through a refinery or recycling plant.

In many cases, waste cannot be recycled or reprocessed, and it ends up in landfill sites or going for incineration.

Amount & Type of Waste

At the start of an incident, it helps to have a realistic estimate of how much waste there's likely to be and what it comprises.

As a general rule, spills of crude oils and heavy fuel oils persist in the marine environment and generate the most waste. Non-persistent oils, such as gasoline and kerosene, on the other hand, usually evaporate within a few hours of being spilled. As a result, the waste generated from spills of these products tends to be much less.

Over time, oil at sea may pick up water to form an emulsion. It may also collect debris, such as bits of lost cargo, broken parts of the ship or litter and other debris from the shore, adding to the volume to be recovered.

Oil that's recovered from the shore is usually mixed in with large quantities of sand or pebbles, and often wood, plastics, seaweed or oiled wildlife.

The clean-up itself also generates waste, with oiled response materials, such as sorbents, PPE, damaged boom and waste bags adding to the volume to be removed. If fishing gear and mariculture facilities are contaminated and can't be cleaned satisfactorily, that also adds to the waste pile.

Different types of waste are often disposed of differently, so it helps to separate out the waste and keep it segregated from the outset. This isn't always easy, but it saves time in the long run and makes it much easier to direct the waste towards the appropriate treatment or disposal method.

Waste Storage

The waste collected during clean-up operations often needs to be stored temporarily to allow time for the logistics to be put in place to transport and dispose of it. Shoreline waste is normally stored in skips or drums well above the high tide mark. The storage area needs to be lined to make sure there's

no contamination of the surrounding area or groundwater. It should also be separated from public access areas where possible.

Plastic bags and sacks are often used for collected waste, but as they deteriorate in sunlight they should only be used to transport waste rather than store it for any length of time.

LIQUIDS	
Storage Facility	Comments
Flexible open topped tank	Suitable for initial storage - not movable when full. Primary use with low-capacity skimmers up to 10 t/hr
Flexible pillow tank - no support	Suitable for initial storage. Danger of being unable to remove heavy mousse from tank. Suitable for initial storage
Flexible pillow tank - with support on pallets	Suitable for initial storage. Can be moved by suitable lifting equipment. Danger of being unable to remove heavy mousse from tank. Suitable for initial storage
Dracones	Suitable for initial storage at sea. Danger of being unable to remove heavy mousse from dracone. Suitable for skimming operations up to 50 t/hr depending on dracone capacity,
Barges	Suitable for initial storage. Stable working platform. Suitable for low and high-capacity skimming operations
Mobile Road Tanks	Ideal for routing to final disposal site Well suited for operations close to shore especially when quays are available. Are used to recover oil from primary storage vessels, dracones, barges, pillow tanks etc.
Oil Tankers	Suitable for very large spills - normally best used to collect oil already in barges etc. If high-capacity recovery systems (up to 500 t/hr) are used, small coastal tankers will be needed as primary storage
Ships Tanks	It is rare for master's to permit the use of spare tankage for reception of recovered. However, in a number of areas where boats have been previously identified as recovery vessels, some tankage is set aside for handling recovered oil.
Movable open top tanks	Suitable as first storage in separating heavily oiled solids from bulk of oil by use of coarse mesh sieves
Pits	Must be lined with sand to protect essential heavy duty plastic liner. Should be close to major clean-up sites.
Bunds	Cheaper than pits. Liners required

During a large spill response, the amount of material collected may be more than the local treatment or disposal sites can cope with. In these cases, larger temporary storage facilities need to be found.

Liquid/Solid Mixtures	
Storage Facility	Comments
Pits	Must be lined with sand to protect essential heavy duty plastic liner. Should be close to major clean-up sites.
Bunds	Cheaper than pits. Liners required
Skips	Versatile, robust and cheap. Can be transported on supply boats/landing craft to remote sites. If possible, line with plastic.
Open Top Oil Drums	Difficult to handle when full
Plastic Containers	Quick deployment. Useful for inaccessible areas
Heavy Duty Plastic Bags	Ideally suited when clearing beaches by hand. Can be moved above the high-water line. Lead to problems at the disposal site.
Hard standing	Preferably sloping site with drainage
Lorries	Restricted to solid debris with low oil content. Good access required.

Waste needs to be handled in accordance with local regulations. Waste Transfer Notices are required with all waste materials for disposal.

Treatment and Disposal Options

There are a number of options available for final treatment and disposal of oil and oily waste. The method taken depends on several factors:

- The nature and consistency of the waste
- The volume of waste collected
- The availability of suitable sites and facilities
- The costs involved
- Any regulatory restrictions

Any oil recovered will be transferred to an approved waste oil disposal / recycling contractor. Two potential outlets are the Irish Refining Company and Atlas Waste Oil.

Disposal Methods

• Recovery to Oil Processing Installations

Reprocessing is the preferred option. In general, only pure oil and possibly oil/water mixtures will be acceptable.

• Landfill

This is the principal disposal method but can only be used where there is little or no ground water abstraction. Future regulations are likely to be more restrictive.

• Stabilisation

This is an expensive method but is likely to be used increasingly as landfill becomes further restricted. Development work is in progress using silage mounds.

• Land Farming

This can only make a limited contribution to oil spill disposal and is becoming less acceptable. However, it may be suitable for small quantities of oily waste such as contaminated seaweed.

• Combustion

Uncontrolled combustion is unsatisfactory because of air pollution. Commercial waste incinerators can dispose of limited quantities of oily waste.

Specific Waste Transfer and Disposal Locations.

The following final waste disposal sites have been identified within the Shannon Estuary area:

Aughinish Alumina

- On-site

Clare County Council:

- Central Waste Management Site, Ballyduff Beg, Inagh, Co. Clare

ESB Moneypoint

- Onsite, Moneypoint Powe Station, Kilrush, Co. Clare.

Galway

- Tuam Council Depot, N8

- Clifden Council Depot, Tullyvoheen
- Tonabrocky Council Depot, Ragoon
- Gort Council Depot, Ennis Road
- Ballinasloe Council Depot, Pollboy
- Loughrea Council Depot, R 350

Kerry County Council:

- former KCC landfill site at Muingnaminane, Co. Kerry.

Shannon Airport Group

- On-site – Shannon Airport area

Shannon Foynes Port Company

- Onsite – Foynes Port, Foynes, County Limerick
- Onsite – Limerick Docks, Dock Road, Limerick.

**ALL FINAL DISPOSAL METHODS NEED TO BE AGREED AND APPROVED BY THE
LOCAL AUTHORITY AND/OR DEPARTMENT OF ENVIRONMENT**

CHAPTER 14

PLACES OF REFUGE

IRISH COAST GUARD DECISION PROCESS

14 Place of Refuge

A place of refuge is 'a place where a vessel in need of assistance can take action to enable it to stabilise its condition and reduce the hazards to navigation, and to protect human life and the environment.

This chapter is to assist the Incident Commander and IMT should the Shannon Estuary be identified as a suitable Place of Refuge for a distressed vessel.

The IRCG is the lead agency for decisions relating to a ship in need of assistance and thus requesting a place of refuge. The IRCG is responsible for ensuring the IMO guidelines are considered and implemented to the extent possible. In accordance with the IMO guidelines, the IRCG has developed a comprehensive Place of Refuge Decision-Making (PORDM) process, detailed in SOP 06-2020.

SOP 06-2020 should be consulted by the SFPC Incident Commander, or other IMT member, who may be identified as a potential 'Ship Casualty Assessment Team Member' under the guidance of ANNEX 6 within SOP 06-2020.

Place of Refuge Decision-Making Process

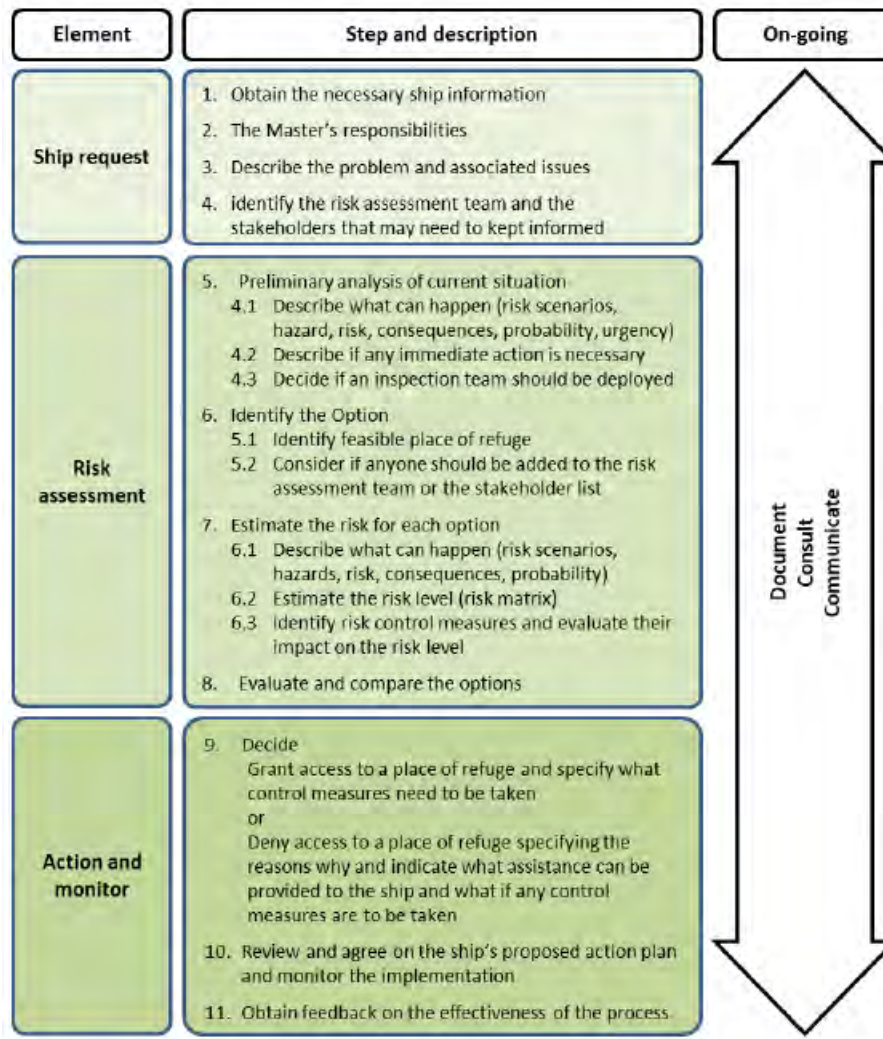
The PORDM applies to all situations where a vessel needs assistance and requests a *place of refuge* within Irish waters. This includes Ireland's internal waters, territorial sea and the Exclusive Economic Zone (EEZ). The PORDM also applies in the case where a vessel is destined for Ireland and has reported a problem (a defect, deficiency, or a casualty). The PORDM does not apply to distress situations where the safety of life is involved. In such cases, established IRCG search and rescue protocols should be followed.

An overview of the PORDM process is shown below. This process will assist the IRCG and the ship casualty assessment team in determining if access is to be allowed or not, facilitating effective and objective decision-making.

For detailed guidance of the PORDM, referring to Section 3 SOP 06-2020

Where access is granted, the most suitable place will be identified, and appropriate risk control measures implemented. Where the risk is considered too great and access to a place of refuge is denied, then the nature and degree of assistance to the vessel offshore will be decided upon, along with any operational recommendations, as per the IMO guidelines.

Place of Refuge Decision Process (From SOP 06-2020)



CHAPTER 15

STAKEHOLDER ENGAGEMENT AND MEDIA RELATIONS

Issue
2

Date
Oct 2023

Status
For review

Page No
163

15 Stakeholder Management

Introduction

Community and stakeholder engagement is an important set of activities that can build a bridge between the response organization and those most affected by an oil or HNS spill to the benefit of all those with a stake in the response. For the engagement to be beneficial and meaningful it is important for those responding to a spill and stakeholders to share an understanding and develop realistic expectations about spill response and recovery, as well as for responders to understand why stakeholder engagement is important.

Stakeholder Engagement Process:

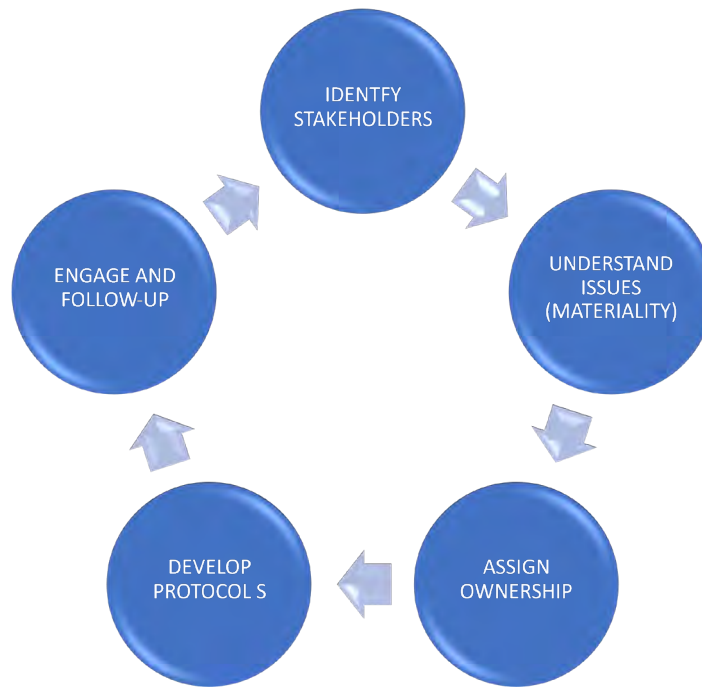
In the event of a major Tier 3 oil spill, the Irish Coast Guard is ultimately accountable for Stakeholder and Media Management. At Tier 1 and 2, the responsible rest with SFPC and/or the SEAPT member responsible for the spill. Responsibility for interaction with various elements of the community and media may be delegated through the Incident Command Team to the Local Authority, individual SEA-PT members or the spiller. The release of any information to the Media will be approved by the IRCG.

Effective stakeholder engagement is accomplished by planning (pre-incident preparedness) and implementing (during response) a program that leverages local knowledge, relationship and networks. The key to the process is **early identification** of stakeholders, **understanding of materiality** (what matters to the stakeholders) of potential issues, **assigning ownership** and **development of protocols** for engagement, response and communication and **engagement and follow-up**.

Stakeholder Identification:

The first stage is to identify stakeholders. While some stakeholders will be easily identified and already known, others will not. It is important to recognise that proximity (to an event) is not sound basis for stakeholder identification. Some organizations that will become interested in a major spill event are based internationally, but will mobilize personnel in order to gain representation.

Relevant stakeholders are those groups and individuals, or organizations that could be affected by the SFPC or SEA-PT member's activities or performance.



Stakeholder Engagement Model:

There are **FIVE** key attributes to identifying stakeholders:

- **Dependency** – those who are directly or indirectly dependent on SFPC/SEA-PT or those whom the SFPC/SEA-PT is dependent upon for operation.
- **Responsibility** – those to whom the SFPC/SEA-PT has, or in the future may have, legal operational, commercial, or moral/ethical responsibilities
- **Tension** – group or individuals who need immediate attention with regard to financial, wider economic, social or environmental issues
- **Influence** – those who can have an impact on strategic or operational decision-making
- **Diverse perspectives** – those whose different views can lead to a new understanding of the situation and identification of unforeseen opportunities.

Where possible a group or association representing stakeholders should be identified rather than dealing with multiple individual stakeholders with similar needs and or agendas.

See Stakeholder Worksheet 1

Understanding issues and materiality:

The next stage is to identify potential issues for the stakeholders and their impact. This can be done in isolation, but best-practice is to work collaboratively with the various stakeholders in the pre-planning stage to identify and rank issues.

See Stakeholder Worksheet 2

Assign Ownership:

While the Incident Command Team (under the IRCG) maintains overall ownership of the response process and therefore stakeholder response, various entities will have particular knowledge, skills, authority, resources and relationship that make engagement more affective. These should be clearly assigned and understood by each party.

Develop Engagement Protocols:

By early identification of stakeholders and potential issues, draft protocols for use in the event of an incident have been developed. While these may need revising in the event of an incident, the pre-work will speed and guide the process.

A key consideration will be the level of engagement. This can range from a passive – no engagement, to empowered – delegated decision-making.

See Stakeholder Worksheet 3:

Engage and Follow-up:

As indicated, the engagement process with some if not all stakeholders, should be an on-going process that begins pre-incident and continues, in the event of a spill, after the response operations have been completed.

Level of engagement should be constantly reviewed to ensure it is appropriate in terms of content, level of authority and representative agency/group.

Media Relations and Protocols:

The media are a section of the stakeholder group for which special arrangements, preparation and engagement should be planned. The media both television and radio will be invaluable in the overall stakeholder engagement and management process through their ability to communicate information from the Incident Command Team to large groups of the community.

Consideration should be given to engaging with media representatives in the pre-planning phase and through training and exercises in order to establish a relationship.

Following an emergency, increased media interest and activity should be anticipated and it is imperative that all agencies engage in a shared, consistent media strategy.

Agencies operating at the scene/onshore will most likely be exposed to intense media activity, with the media seeking immediate statements, information and access. As a general rule, media statements should be coordinated and issued jointly by agencies, maximising and prioritising available information.

Coordination of these activities will involve gathering and linking the available information from the Onsite and Local Coordination Centres, as appropriate, and the MRCC/SC.

It is likely that the architecture for such coordination will take some time to establish, therefore, for the first hour of activities, the Garda Síochána will take the lead on media matters; gather information and providing the media with any relevant or critical information.

The following should assist in the provision of consistent, co-ordinated messages:

- Each Response Agency will provide a Media Liaison Officer, or Media representative, at the site (where a “site” exists).
- The activities of these Media Liaison Officers/Media Representatives will be coordinated by the Media Liaison Officer of the lead agency.
- The lead agency will establish a Media Centre at or near the site of the emergency for use by the Response Agencies.
- All Inter-Agency media statements will be issued from one agreed source and location. This arrangement should be made clear to the media at the earliest possible opportunity.
- All statements to the media, at or near the site, must be cleared by the On-Site Coordinator or his/her Media Liaison Officer.
- Once it is established, the Local Coordination Group should take the lead in terms of working with the media, away from the site.

- As with arrangements at the site, each Response Agency should provide a Media Liaison Officer / Media Representative at the Local Co-ordination Centre
- The activities of these Media Liaison Officers will also be co-ordinated by the Media Liaison Officer of the lead agency.
- The Media Liaison Officer of the lead agency should be involved in Local Coordination Group Meetings, so that s/he is fully briefed and can effectively plan the media response.
- All statements to the media at this level should be cleared with the Chair of the Local Co-ordinating Group e.g. Director of Services for Local Authority. If SFPC is directed involved in the spill a Senior designated representative for SFPC should approve/clear the statement.

Shared Information

It is crucial that all Response Agencies keep each other informed across the architecture of co-ordination. The effective sharing of information in such situations will decrease the chance that any one of the Response Agencies may be uninformed on a critical issue or development and their response requirements or commitments thus compromised. Information must be made readily available, and freely exchanged, among the responding emergency services, as well as the port, harbour, shipping, airline or other companies involved.

A DRAFT MEDIA STATEMENT IS GIVEN ON PAGE 190.

Stakeholder engagement Worksheet 1:

STAKEHOLDER GROUP RELEVANCE TO SPILL RESPONSE					
STAKEHOLDER GROUP	ATTRIBUTE				
	D	R	T	I	DP
Incident managers and spill response	X	X		X	
Tier 1 response organization	X	X		X	
Elected and appointed officials	X	X	X	X	X
Media and the public			X	X	
Agency regulators	X	X	X		
Public health specialists		X		X	X
Scientific/academic community			X		X
Seafood fishing industry	X	X	X		
Coastal tourist industry (hotels, restaurants, shops, recreational activity centres)	X	X	X	X	
Non-governmental groups (NGO's)			X		X
Coastal land owners	X	X		X	
Oil, gas and marine industry	X				X
The polluter	X	X	X	X	
Volunteers			X	X	X

D = Dependency R = Responsibility T = Tension I = influence DP = Diverse perspective

Stakeholder engagement worksheet 2:

MAPPING OF STAKEHOLDER CONCERNS AND PRIORITY												
External Stakeholders	CONCERN											
	Health	Safety	Environment	Trust	Information	Economics	Legal	Process	Livestock/Pets	Compensation	Land Access	Other
Officials – National and Local												
General Large												
Media												
Fishermen and Families												
Community at Risk												
ER Personnel												
Public Health Personnel												
Medical Personnel												
GARDA												
Businesses – affected/concerned												
NGO's												
Schools												
Others												

Stakeholder engagement worksheet 3:

Level of Engagement guide:

Level	Goal	Communication	Nature of Relationship	Engagement Approaches
Transact	Work together in a contractual relationship where one partner directs the objectives and provides funding.	Limited two-way: setting and monitoring performance according to terms of contract.	Relationship terms set by contractual agreement. <i>"We will do what we said we would" or "we will provide the resources to enable you to do what we agree".</i>	Public Private partnerships' and Private Finance Initiatives, Grant-making, cause related marketing.
Consult	Gain information and feedback from stakeholders to inform decisions made internally.	Limited two-way: company asks questions and the stakeholders answer.	Short- or long-term involvement. <i>"We will keep you informed, listen to your concerns, consider your insights, and provide feedback on our decision."</i>	Surveys. Focus Groups. Workplace assessments. One-to-one meetings. Public meetings and workshops. Standing stakeholder advisory forums. On-line feedback and discussion.
Involve	Work directly with stakeholders to ensure that their concerns are fully understood and considered in decision making.	Two-way, or multi-way between company and stakeholders. Learning takes place on both sides. Stakeholders and company take action individually.	May be one-off or longer-term engagement. <i>"We will work with you to ensure that your concerns are understood, to develop alternative proposals and to provide feedback about how stakeholders views influenced the decision making process".</i>	Multi-stakeholder forums. Advisory panels. Consensus building processes. Participatory decision making processes.
Collaborate	Partner with or convene a network of stakeholders to develop mutually agreed solutions and joint plan of action.	Two-way, or multi-way between company/ies and stakeholders. Learning, negotiation, and decision making on both sides. Stakeholders work together to take action.	Long- term. <i>"We will look to you for direct advice and participation in finding and implementing solutions to shared challenges."</i>	Joint projects, voluntary two-party or multi-stakeholder Initiatives, Partnerships.
Empower	Delegate decision-making on a particular issue to stakeholders.	New organisational forms of accountability: stakeholders have formal role in governance of an organisation or decisions are delegated out to stakeholders.	Long-term. <i>"We will implement what you decide."</i>	Integration of Stakeholders into Governance Structure. (e.g., as members, shareholders or on particular committees etc.)

The above worksheets and guidance are references from ACROPOL – Community Engagement Guidance for Oil and HNS Incidents www.arcopol.eu

DRAFT MEDIA STATEMENT

An incident (*briefly describe explosion/fire/plane crash*) took place at (*location*) at (*time*) on (*day & date*).

At (*time*) a Major Emergency was declared by (*name and title of person who declared the Major Emergency*).

As a result the Major Emergency Plans of An Garda Síochána, the Health Service Executive and (*name*) City/County Council were activated and Garda, Fire and Ambulance units were dispatched to the scene of the incident.

Currently there are (*number of units*) present at the scene. (*Give specific numbers of how many units of each service are present*). Also in attendance are (*give names of primary officers from each service present*).

At this early stage all our energies are concentrated on bringing the situation under control. We are not yet in a position to comment on any possible casualties.

Major Emergency Plans are activated when an event takes place, usually with little or no warning, which causes or threatens death or injury, serious disruption of essential services or damage to property, the environment or infrastructure, beyond the normal capabilities of the principal emergency services in the area in which the event occurs.

When a Major Emergency is declared, the Garda Síochána, the Health Service Executive and the Local Authority are immediately notified and respond on the basis of Major Emergency Plans, which detail a co-ordinated response to such incidents, and outline areas of responsibility for each agency.

Concerned members of the public are asked not to attend the scene of the emergency. Access to the site is closed off. Large numbers of emergency vehicles are travelling to the scene and it is vital that the roads are kept clear.

MEDIA STATEMENTS CAN ONLY BE RELEASED ON THE AUTHORITY OF THE INCIDENT COMMANDER IN CONSULTATION WITH IRCG AND OTHER PRA'S.

THE IMT SHOULD CONSIDER A JOINT MEDIA STATEMENT AGREED WITH THE IRISH COAST GUARD

Preparation for Press Conference

Typical Media Questions

Many of the questions that will be raised by the media during a Major Emergency are predictable. The following is given by way for guidance in preparing for media/press questioning:

General

Who is in charge here?

Has the danger passed?

When is the situation likely to be back to some form of normality?

Casualty Information

In the aftermath of a Major Emergency, information on individual casualties will be provided to relatives **only by An Garda Síochána**. To assist them in this process, An Garda Síochána will establish a Casualty Bureau.

General Information on Casualties

As regards general information on casualties, this is a particularly sensitive issue and information on this area must be verified before being released to the media. The following are some of the obvious questions which may be raised in the aftermath of a Major Emergency:

- How many were casualties?
- Of those who were injured, how serious is their condition?
- Of the total involved, how many are uninjured?
- Were there any well-known or prominent persons involved?
- Where are casualties being treated?
- Where are the displaced being cared for?

Property Damage

- What is the estimated value of property loss?
- What kinds of structures were involved?
- Was damage caused to any particularly important property (e.g. historical buildings, art treasures, homes of prominent figures)?
- Was other property threatened?
- What measures have been or are being taken to protect property?
- Has the area been damaged by emergencies before?

Response and Relief Activities

- Who discovered the incident?
- Who raised the alarm?
- How quickly were response units on the scene?
- What services responded?
- How many are engaged in the response?
- What acts of heroism occurred?
- How was the emergency prevented from spreading?

Other Characteristics of the Major Emergency

- Were there any blasts or explosions?
- Was there collapse of structures?
- Were there crimes or violence?
- Were there attempts at escape or self-rescue?
- What was the extent of the emergency?
- What was the duration?
- Were there any crowd problems?
- Were there other unusual happenings?
- What accompanying accidents have occurred?
- What were the resulting effects (e.g. anxiety, stress) on the families and survivors?
- Will these effect day to day services?

Causes of the Major Emergency

- Were there any previous indications of danger?
- How did the incident occur?
- Could the Major Emergency have been prevented?

The causes of a Major Emergency will generally be determined by lengthy and detailed civil and, possibly, criminal investigation, followed by court cases, Inquests and, possibly, a Tribunal of Inquiry. For this reason, speculation in this regard should be avoided. Speculation can also hinder witnesses coming forward and can influence their account of what happened.

It is important to note that details, which are widely reported in the media, may or may not be accurate. For this reason, all spokespersons should avoid comment on media speculation, unless to specifically rebut incorrect reports.

Spokespersons who speak to the media on behalf of the three principal response agencies should confine their comments to issues which have been jointly agreed or are within their area of expertise and avoid speculation.

Individual agencies must be careful to ensure that they release only verified information and, as far as possible, should comment only in respect of their own areas of responsibility.

CHAPTER 16

FINANCIAL MANAGEMENT PROTOCOLS

Issue
2

Date
Oct 2023

Status
For review

Page No
176

16 Financial Management Protocols

Response operations will be conducted within the established delegation of authority as approved by the SFPC and SEAPT members financial procedures and protocols.

The SFPC IMT has the financial authority for expenditure relating to routine operational and maintenance requirements within the agreed budget. A Finance Section shall be established as part of the IMT to track and manage costs.

Delegation of Financial Authority follows the process and limits set in the public procurement process and guidelines. Should potential expenditure exceed set limits, authority shall be sought from the finance department within the SFPC.

Procurement of Services and Payment of Contractors.

The procurement of services during an incident will adhere to the standard SFPC service procurement protocols and procedures.

Should financial limits for expenditure relating to supplies or services be reached, the Incident Commander, through the finance Section shall apply for additional financial authorisation from the SFPC CEO and or Board of Directors, as delegation limits require.

Cost Recovery.

Cost recovery is of fundamental importance and can be considered at three levels:

- Larger spill events where owners have cover provided by P&I or IOCP claims,
- Small vessel/pressure craft/facilities with their own insurance, and
- Vessels/pleasure craft with no insurance.

It is likely in the case of larger spill events that there will be one of two insurers in attendance at the scene representing the insurers of the parties thought likely of being responsible for the spill event. If they are not the P&I Club, the claim will be lodged against the IOCP Fund.

In general, the IOCP is for larger Tier 3 tanker centred incidents and the P&I Club represents the smaller vessels.

All costs associated with the incident should be tracked, recorded and maintained in order that a comprehensive claim can be made.

SFPC shall take suitable and sufficient legal and technical guidance with respect to claims.

Detailed guidance can be obtained at www.iopcfunds.org

CHAPTER 17

DOCUMENTATION PROCEDURES

Issue
2

Date
Oct 2023

Status
For review

Page No
179

17 Documentation Procedures

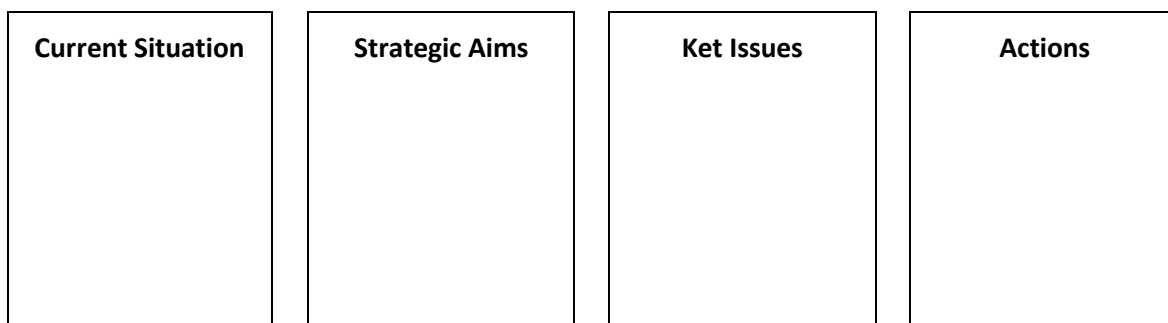
Documentation created as part of any response process will be collected by the document controller who sits within the Planning Section and will be managed within the SFPC Document Management System.

Information Display

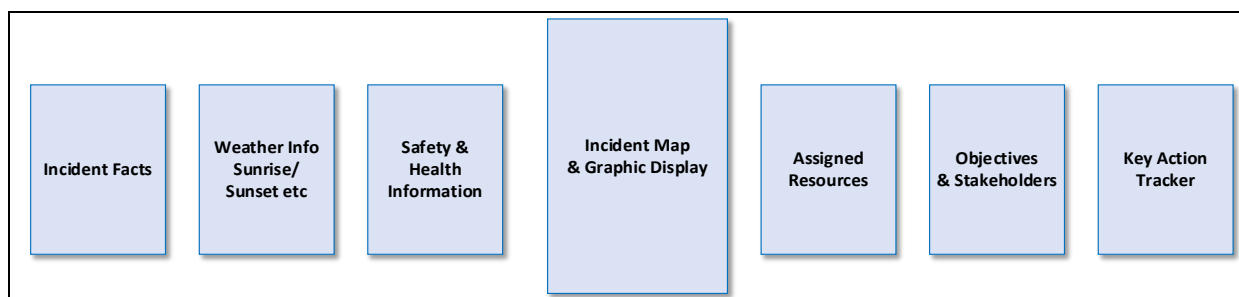
In order to maintain “*situation awareness*”, through accurate and up-to-date information an Information Display in the ICR should be established.

A recommended layout of Status Boards is shown below. It is the responsibility of the Situation Unit Leader (or other allocated person) to ensure that the situation boards show an update to date picture of all available information.

Basic Information Board:



Enhanced Information Board



The situation displays on the left of the map show information of the incident. The situation displays on the right of the map present information on the status of the spill response operations.

ANNEXES

Issue
2

Date
Oct 2023

Status
For review

Page No
181

Annex 1 Contact List

Principal Response Agencies		
Irish Coast Guard		999 / 112
	coastguardnmoc@transport.gov.ie	01-6620922
An Garda Siochana		999 / 112
Fire Services – Munster Regional Communications Centre		999 / 112
National Ambulance Service – Ambulance Control Centre		999 / 112
Shannon Foynes Port Company		
Michael Kennelly	mkennelly@sfpc.ie	087 1236883
John Carlton	jcarlton@sfpc.ie	087 2366562
Duty Harbour Master	marineops@sfpc.ie	087 2542266
Pollution & Waste Services (PWS)		
Ian Behan		083 1897635
Brian McGonagle		087 2561869
SEAPT Members		
Shannon Foynes Port	Michael Kennelly	087 1236883
Limerick City & County Council	Paul O’Grady	087 9115000
Kerry County Council	Mick Boyce	087 9878198
Clare County Council	Brendan Flynn	087 2901726
Galway County Council	Ann Dolan	087 2075672
Galway City Council	Peter O’Grady	087 6667863
Aughinish Alumina Ltd	Louise Clune	086 1064941
ESB Moneypoint	Gerard Keane	086 2112477
The Shannon Airport Group	Lorraine Ryan	087 9073992
SSE Tarbert	Caroline O’Connell	086 8216392
NORA Tarbert	Mario Minehane	087 8582792
AFSC	Ryan O’Donnell	087 1872226
CircleK	Assumpta Feeney	
Irish Coast Guard	Dave McMyler	087 6477021
Valero	Ricky Connolly	+44 7876 390 387
Media & Communications		
Eugene Hogan	Teneo	087 2497290
Heavy Lift Capability		
NIARON	Ronan Keane	086 2620825

Annex 2 Training and Certifications

Certificate Numbers	Description	Attendance	Audience	Training Date	Valid Until	Accreditation
PTC-83538-001 to 008	IMO OPRC Tactical Level (L2) Training Course	8	Mixed	23/10/2023	22/10/2023	Nautical Institute
PTC-83537-001 to 025	IMO OPRC Operational Level (L1)-Ports & Coastal Response Training	25	Mixed	23/10/2023	22/10/2026	Nautical Institute
N/A	SEA-PT Annual Exercise 2023, Glin Co Limerick, Deployment & Desktop	70	Mixed	18 & 19/04/2023	N/A	N/A
PTC-83404-001 to 015	IMO OPRC Operational Level I (L1) Introduction	15	Local Authority	16/11/2022	15/11/2025	Nautical Institute
N/A	SEA-PT Annual Exercise 2022, Waterville Co Kerry, Deployment (Multiple Sites) & Desktop	65	Mixed	20 & 21/10/22	N/A	N/A
PTC-83394-001 to 013	IMO OPRC Operational Level I (L1) Introduction	13	Local Authority	19/10/2022	18/10/2025	Nautical Institute
PTC-83304-001 to 012	OPRC Oil Spill Response Refresher(L2&L3) Training Course & Oil Spill Response Workshop	12	Mixed	15/06/2022	14/06/2025	Nautical Institute
PTC-83303-001 to 020	Oil Spill Clean Up operative Training Course/IMO Introductory Oil Spill Response Course	20	Mixed	14/06/2022	13/06/2025	Nautical Institute
N/A	SEA-PT Annual Exercise 2021, Oranmore, Galway	30	Mixed	25/11/2021	N/A	N/A
PTC-83181-001 to 009	Introduction to HNS Response	9	Mixed	15/06/2021	14/06/2024	Nautical Institute
PTC-83180-001 to 008	Oil Spill Clean Up Operative Training Course	8	Mixed	14/06/2021	14/06/2024	Nautical Institute
N/A		12	Mixed	10/12/2020	N/A	N/A

	SEA-PT Exercise 2020-Desktop Simulated Incident Management Exercise					
PTC-82968-001 to 021	OPRC IMO Level 1,2, & 3 Refresher Training Course	21	Mixed	25/02/2020	24/02/2023	Nautical Institute
PTC-82982-001 to 014	Hazardous and Noxious Substance Awareness Course	14	Mixed	26/02/2020	25/02/2023	Nautical Institute
PTC-82950-001 to 015	Incident Command System Training Course	15	Mixed	11/12/2019	10/12/2022	N/A
PTC-82943-001 to 014	Oil Spill Clean Up Operative Training Course	14	Mixed	10/12/2019	09/12/2022	N/A
N/A	SEA-PT Annual Exercise 2019, Rosbeigh, Cromane & Tralee Co Kerry (Multiple Sites-Deployment and Desktop)	65	Mixed	1&2/05 2019	N/A	N/A
PTC-82842-001 to 018	Oil Spill Clean Up Operative Training Course	18	Local Authority	30/04/2019	29/04/2022	N/A

Annex 3 Equipment and Resources

Equipment Inventory Check List

Client: Michael Kennelly

Site Location: SEA-PT Warehouse
Foynes Port
Foynes
Co Limerick

Address: SEA-PT Ltd
Harbour office
Foynes
Co Limerick

Revision:

Inspected by: Ian Behan

Revised by: Ian Behan

Date: October 2023

A1 – Ready for use, **A2** – Fault but OK to use, **Q** – Quarantine DO NOT USE

Issue
2

Date
Oct 2023

Status
For review

Page No
185

Item	Location	Description	Quantity	Code	A1	A2	Q	Accessories	√	Comments
1-1										
1-2		Hydraulic drive unit	1	SF-03-21-01						
1-3	SF-03-L0	Hydraulic operated reel	1	SF-05-11-01				Plastic cover		
1-4		Trailer	1	SF-06-14-01				Spare wheel		
1-5		Tow bridle for Troil Boom GP1100	1	SF-01-12-01						
1-6		Tow bridle for Troil Boom GP1100	1	SF-01-12-02						
1-7		Troil Boom GP1100 (25mtr)	1	SF-01-11-01						
1-8		Troil Boom GP1100 (25mtr)	1	SF-01-11-02				New Side to Store		
1-9		Troil Boom GP1100 (25mtr)	1	SF-01-11-03						
1-10		Troil Boom GP1100 (25mtr)	1	SF-01-11-04						
1-11		Troil Boom GP1100 (25mtr)	1	SF-01-11-05						
1-12		Troil Boom GP1100 (25mtr)	1	SF-01-11-06						
1-13		Troil Boom GP1100 (25mtr)	1	SF-01-11-07						
1-14		Troil Boom GP1100 (25mtr)	1	SF-01-11-08						
1-15		Troil Boom GP1100 (25mtr)	1	SF-01-11-18						
2-1										
2-2		Hydraulic drive unit	1	SF-03-21-02						
2-3	SF-02-L0	Hydraulic operated reel	1	SF-05-11-02				Plastic cover		
2-4		Trailer	1	SF-06-14-02				Spare wheel		
2-5		Tow bridle for Troil Boom GP1100	1	SF-01-12-03						
2-6		Tow bridle for Troil Boom GP1100	1	SF-01-12-04						
2-7		Troil Boom GP1100 (25mtr)	1	SF-01-11-09				New Side to Store		
2-8		Troil Boom GP1100 (25mtr)	1	SF-01-11-10						
2-9		Troil Boom GP1100 (25mtr)	1	SF-01-11-11						
2-10		Troil Boom GP1100 (25mtr)	1	SF-01-11-12						
2-11		Troil Boom GP1100 (25mtr)	1	SF-01-11-13						
2-12		Troil Boom GP1100 (25mtr)	1	SF-01-11-14						
2-13		Troil Boom GP1100 (25mtr)	1	SF-01-11-15						
2-14		Troil Boom GP1100 (25mtr)	1	SF-01-11-16						

3-1	SC-03-L0	Troil Boom GP1100 (25mtr)	1		SF-01-11-17						
Item	Location	Description	Quantity		Code	A1	A2	Q	Accessories	√	Comments
4-1	SE-02-L0	Tow bridle for Troil Boom GP1100	1		SF-01-12-05						
4-2		Tow bridle for Troil Boom GP1100	1		SF-01-12-06						
4-3		Tow bridle for Troil Boom GP1100	1		SF-01-12-07						
4-4		Tow bridle for Troil Boom GP1100	1		SF-01-12-08						
4-5		Tow bridle for Troil Boom GP1100	1		SF-01-12-09						
4-6		Tow bridle for Troil Boom GP1100	1		SF-01-12-10						
5-1	SB-02-L1	Sea Sentinel 1100 boom (20 mtr)	1		SF-01-21-01						
5-2	SB-02-L1	Sea Sentinel 1100 boom (20 mtr)	1		SF-01-21-02						
5-3	SB-01-L1	Sea Sentinel 1100 boom (20 mtr)	1		SF-01-21-03						
5-4	SB-02-L1	Sea Sentinel 1100 boom (20 mtr)	1		SF-01-21-04						
5-5	SB-01-L1	Sea Sentinel 1100 boom (20 mtr)	1		SF-01-21-05						
5-6	SB-02-L1	Sea Sentinel 1100 boom (20 mtr)	1		SF-01-21-06						
5-7	SB-02-L1	Sea Sentinel 1100 boom (20 mtr)	1		SF-01-21-07						
5-8	SB-01-L1	Sea Sentinel 1100 boom (20 mtr)	1		SF-01-21-08						
5-9	SB-01-L1	Sea Sentinel 1100 boom (20 mtr)	1		SF-01-21-09						
5-10	SB-01-L1	Sea Sentinel 1100 boom (20 mtr)	1		SF-01-21-10						
6-1	SB-01-L1	Tow Bridle for Sea Sentinel 1100	1		SF-01-22-01						
6-2		Tow Bridle for Sea Sentinel 1100	1		SF-01-22-02						
6-3	SB-02-L1	Tow Bridle for Sea Sentinel 1100	1		SF-01-22-03						
6-7		Tow Bridle for Sea Sentinel 1100	1		SF-01-22-04						
7-1	SB-05-L1	Shore Guardian 550 (20mtr)	1		SF-01-31-01				Storage bag		
7-2		Shore Guardian 550 (20mtr)	1		SF-01-31-02				Storage bag		
7-3		Shore Guardian 550 (20mtr)	1		SF-01-31-03				Storage bag		
7-4		Shore Guardian 550 (20mtr)	1		SF-01-31-04				Storage bag		
7-5		Shore Guardian 550 (20mtr)	1		SF-01-31-05				Storage bag		
7-6	SB-04-L1	Shore Guardian 550 (20mtr)	1		SF-01-31-06				Storage bag		
7-7		Shore Guardian 550 (20mtr)	1		SF-01-31-07				Storage bag		
7-8		Shore Guardian 550 (20mtr)	1		SF-01-31-08				Storage bag		

7-9		Shore Guardian 550 (20mtr)	1		SF-01-31-09				Storage bag		
7-10		Shore Guardian 550 (20mtr)	1		SF-01-31-10				Storage bag		
Item	Location	Description	Quantity		Code	A1	A2	Q	Accessories	√	Comments
7-11	SB-03-L1	Shore Guardian 550 (20mtr)	1		SF-01-31-11				Storage bag		
7-12		Shore Guardian 550 (20mtr)	1		SF-01-31-12				Storage bag		
7-13		Shore Guardian 550 (20mtr)	1		SF-01-31-13				Storage bag		
7-14		Shore Guardian 550 (20mtr)	1		SF-01-31-14				Storage bag		
7-15		Shore Guardian 550 (20mtr)	1		SF-01-31-15				Storage bag		
7-16	SB -03-L0	Shore Guardian 550 (20mtr)	1		SF-01-31-16				Storage bag		
7-17		Shore Guardian 550 (20mtr)	1		SF-01-31-17				Storage bag		
7-18		Shore Guardian 550 (20mtr)	1		SF-01-31-18				Storage bag		
7-19		Shore Guardian 550 (20mtr)	1		SF-01-31-19				Storage bag		
7-20		Shore Guardian 550 (20mtr)	1		SF-01-31-20				Storage bag		
7-21		Shore Guardian 550 (20mtr)	1		SF-01-31-21				Storage bag		
7-22		Shore Guardian 550 (20mtr)	1		SF-01-31-22				Storage bag		
8-1	SC-01-L0	Tow Bridle for Shore Guardian 550	1		SF-01-33-01						
8-2		Tow Bridle for Shore Guardian 550	1		SF-01-33-02						
8-3		Tow Bridle for Shore Guardian 550	1		SF-01-33-03						
8-4		Tow Bridle for Shore Guardian 550	1		SF-01-33-04						
9-1	SB-05-L0	Shore Guardian 550 Neoprene (25mtr)	1		SF-01-32-01				Lifting harness		
9-2	SB-06-L0	Shore Guardian 550 Neoprene (25mtr)	1		SF-01-32-02				Lifting harness		
9-3	SB-05-L0	Shore Guardian 550 Neoprene (25mtr)	1		SF-01-32-03				Lifting harness		
9-4	SB-04-L0	Shore Guardian 550 Neoprene (25mtr)	1		SF-01-32-04				Lifting harness		
9-5	SB-05-L0	Shore Guardian 550 Neoprene (25mtr)	1		SF-01-32-05				Lifting harness		
9-6	SB-04-L0	Shore Guardian 550 Neoprene (25mtr)	1		SF-01-32-06				Lifting harness		
9-7	SB-06-L0	Shore Guardian 550 Neoprene (25mtr)	1		SF-01-32-07				Lifting harness		
9-8	SB-06-L0	Shore Guardian 550 Neoprene (25mtr)	1		SF-01-32-08				Lifting harness		
9-9	SB-04-L0	Shore Guardian 550 Neoprene (25mtr)	1		SF-01-32-09				Lifting harness		
10	SD-04-L0	Warne boom (160 mtr)	1		SF-01-23-01						
11-1	SA-03-L0	Komara Star skimmer head	1		SF-02-24-01				Set of 4 hydraulic hoses		

11-2								2 x 3" lay flat delivery hoses		
11-3								2 Pairs of hose floats		
11-4								1 Nylon lifting sling		
Item	Location	Description	Quantity	Code	A1	A2	Q	Accessories	√	Comments
12-1	SA-02-L0	Komara Star skimmer head	1	SF-02-24-02				Set of 4 hydraulic hoses		
12-2								3" Rigid delivery hose		
12-3								4 hose floats		
12-4								1 Nylon lifting sling		
13-1	SA-02-L0	Komara Star skimmer head c/w Water injection Annulus	1	SF-02-24-03				Set of 4 hydraulic hoses		
13-2								3" Rigid delivery hose		
13-3								4 hose floats		
13-4								1 Nylon lifting sling		
14-1	SA-03-L0	Komara 20K skimmer	1	SF-02-23-01				20m set of hydraulic hoses		
14-2								Nylon lifting slings		
15-1	SA-03-L0	75c Spate pump with hydraulic motor	1	SF-04-21-02				6m hydraulic hose set		
15-2								3" x 20m suction hose		
15-3								Suction hose strainer		
15-4								2 pairs of hose floats		
15-5								Layflat delivery hose		
16-1	SA-05-L0	Ro-disc 15k skimmer	1	SF-02-21-01				20m hydraulic hose set		
16-2								Plastic cover		
17-1	SA-05-L0	75c Spate pump with hydraulic motor	1	SF-04-21-01				6m hydraulic hose set		
17-2								3" x 10m suction hose		
17-3								2 Pairs of hose floats		
17-4								Layflat delivery hose		
17-5								2 x 3" Selclamps		
17-6								Suction hose strainer		
18-1	SA-04-L0	Desmi Ro-disc 20k skimmer	1	SF-02-22-01				2 x hydraulic hose sets		
18-2								2" layflat delivery hose		
18-3								3 x stabilising arms		

18-4									3 x flotation buoys				
18-5									wire lifting sling				
19	SA-01-L0	Vikoma GP10-2 power pack	1		SF-03-13-01								
20	SA-01-L0	Vikoma GP10-2E power pack	1		SF-03-14-01				Trickle Chargers				
21	SA-01-L0	Vikoma GP10-2E power pack	1		SF-03-14-02				Trickle Chargers				
Item	Location	Description	Quantity		Code	A1	A2	Q	Accessories	√	Comments		
22-1	SA-04-L0	New Desmi 7.2 kw power pack	2		SF-09-01-01				10m Hydraulic Hose Set				
22-2					SF-09-01-02								
23-1	SA-05-L0	Ro-mop OM 240 D	1		SF-02-31-01				2 x pulley sets				
23-2									1 mop-30 meter				
23-3									Starting handle				
24	SA-06-L0	Desmi mini max weir skimming unit	1		SF-02-11-01								
25-1	SA-06-L0	Spate 75c pump c/w diesel engine	1		SF-04-31-01				4 hose floats				
25-2									3" x 10m suction hose				
25-3									Suction hose strainer				
25-4									Lay flat delivery hose				
26-1	SB-01-L0	Delta head skimmer	1		SF-01-12-01				Suction stem				
26-2									Set stem floats				
26-3									2" to 2 ½" camlock adapter				
27-1	SB-01-L0	Vikoma mini vac - head	1		SF-02-41-01				Suction stem & 2 suction heads				
27-2		Vikoma mini vac hopper	1		SF-02-41-02				2 ½" suction hose				
28-1	SB-01-L0	Vikoma mini vac - engine unit	1		SF-06-33-01				2" suction hose				
28-2		Vikoma mini vac - Vacuum unit	1		SF-02-41-03								
29-1	SB-02-L0	Vikoma transfer pump - Engine unit	1		SF-06-32-01				2 ½" suction hose				
29-2		Vikoma transfer pump - Pump unit	1		SF-04-32-01				3" lay-flat delivery hose				
30-1	SB-02-L0	Vikoma transfer pump - Engine unit	1		SF-06-32-02				2 ½" suction hose				
30-2		Vikoma transfer pump - Pump unit	1		SF-04-32-02				3" lay-flat delivery hose				
31-1	SE-02-L0	Manta Ray skimmer head	1		SF-02-13-01								

Item	Location	Description	Quantity	Code	A1	A2	Q	Accessories	√	Comments
32-1 32-2										
34-1 34-2 34-3 34-4 34-5	SB-02-L0	Honda WB20XT water pump for Shore Guardian	1	SF-04-12-03				Suction hose Suction hose strainer Inflation hose Munson valve type II adaptor Watering can for priming		
35-1 35-2 35-3 35-4 35-5	SB-03-L0	Honda WB20XT water pump for Shore Guardian	1	SF-04-12-01				Suction hose Suction hose strainer Inflation hose Munson valve type II adaptor Watering can for priming		
36-1 36-2 36-3 36-4 36-5	SB-03-L1	Honda GX120 water pump for Shore Guardian	1	SF-04-12-06				Suction hose Suction hose strainer Inflation hose Munson valve type II adaptor Watering can for priming		
37-1 37-2 37-3	SB-04-L0	Honda GX120 water pump for Shore Guardian	1	SF-04-11-02				Suction hose Suction hose strainer Inflation hose		

37-4								Munson valve type II adaptor			
37-5								Watering can for priming			
38-1	SB-04-L1	Honda GX120 (New) water pump for Shore Guardian	1		SF-04-12-05			Suction hose			
38-2								Suction hose strainer			
38-3								Inflation hose			
38-4								Munson valve type II adaptor			
38-5								Watering can for priming			
Item	Location	Description	Quantity	Code	A1	A2	Q	Accessories	√	Comments	
39-1	SB-05-L0	Honda WP20XT water pump for Shore Guardian	1		SF-04-12-02			Suction hose			
39-2								Suction hose strainer			
39-3								Inflation hose			
39-4								Munson valve type II adaptor			
39-5								Watering can for priming			
40-2	SB-05-L1	Honda GX120 (New) Water Pump for Shore Guardian	1		SF-09-03-01			Suction hose			
40-3								Suction hose strainer			
40-4								Inflation hose			
40-5								Munson valve type II adaptor			
41-1	New Side	Honda GX120 water pump for Shore Guardian	1		SF-04-12-04			Suction hose			
41-2								Suction hose strainer			
41-3								Inflation hose			
41-4								Munson valve type II adaptor			
41-5								Watering can for priming			
42-1		OLD HONDA PUMP IN Quarantine			SF-04-11-03						
42-2											
42-3											

42-4											
42-5											
43-1	SB-04-L1	PB-4600 Air inflator	1		SF-04-41-02				Air delivery hose		
43-2									Munson valve type II adaptor		
44-1	SB-05-L1	PB-46LN Air inflator	1		SF-04-42-02				Air delivery hose		
44-2									Munson valve type II adaptor		
45-1	SB-03-L0	ES-250ES Air inflator	1		SF-04-41-01				Air delivery hose		
45-2									Munson valve type II adaptor		
46-1	SB-01-L1	PB-46LN Air inflator	1		SF-04-42-01				Air delivery hose		
46-2									Munson valve type II adaptor		
Item	Location	Description	Quantity	Code	A1	A2	Q	Accessories	√	Comments	
47-1	SB-02-L1	PB – 265ESLT Air Inflator	1		SF-09-02-01				Air delivery hose		
47-2									Munson valve type II adaptor		
48-1	SB-03-L1	PB- 265ESL Air inflator	1		SF-04-43-01				Air delivery hose		
48-2									Munson valve type II adaptor		
49-1	SB-04-L0	PB265ESLT Air inflator	1		SF-09-02-02				Air delivery hose		
49-2									Munson valve type II adaptor		
50-1	SB-05-L0	PB265ESLT Air inflator	1		SF-04-43-03				Air delivery hose		
50-2									Munson valve type II adaptor		
51-1	New Side	PB265ESL Air inflator	1		SF-04-43-02				Air delivery hose		
51-2									Munson valve type II adaptor		
52-1	SB-02-L0	ES-250ES Air inflator	1		SF-04-45-01				Air delivery hose c/w Munson type II adaptor		
53-2	SB-02-L0	PB-2100 Air inflator	1		SF-04-44-01				Munson valve type II adaptor		

54-1	SB-02-L0	PB-2100 Air inflator)	1		SF-04-44-02				Munson valve type II adaptor		
55-1									Containment tank		
55-2									Liner		
55-3	SC-02-L0	Vikoma Startank	1		SF-05-21-01				8 support legs		
55-4									8 thick cross members		
55-5									8 thin cross members		
56-1									Containment tank		
56-2									Liner		
56-3	SC-02-L0	Vikoma Startank	1		SF-05-21-02				8 support legs		
56-4									8 thick cross members		
56-5									8 thin cross members		
57-1									Containment tank		
57-2									Liner		
57-3	SC-02-L0	Vikoma Startank	1		SF-05-21-03				8 support legs		
57-4									8 thick cross members		
57-5									8 thin cross members		
Item	Location	Description	Quantity		Code	A1	A2	Q	Accessories	√	Comments
58-1									Containment tank		
58-2									Liner		
58-3	SC-02-L0	Vikoma Startank	1		SF-05-21-04				8 support legs		
58-4									8 thick cross members		
58-5									8 thin cross members		
59-1									Containment tank		
59-2									Liner		
59-3	SC-02-L0	Vikoma Startank	1		SF-05-21-05				8 support legs		
59-4									8 thick cross members		
59-5									8 thin cross members		
60	SC-01-L0	Inflatable office	2						Inflation motor and hose		

61-1	SE-01-L0	PELI Remote lighting system	1	SF-12-01-01				Anchor pegs and struts		
61-2								Carry box c/w rechargeable battery		
61-3								2 extension light poles		
61-4								2 led lighting heads		
62-1	SE-01-L0	PELI Remote lighting system	1	SF-12-01-02				Carry box c/w rechargeable battery		
62-2								2 extension light poles		New Systems Aquired
62-3								2 led lighting heads		
62-4								1 battery charger		
62-1	SE-04-L0	Polaris Ranger Diesel ATV & Trailer	1	SF-20-22-01						
62-2										
62-3								Winch		
63-1	SE-03-L0	Polaris Ranger Diesel ATV & Trailer Trailer c/w set of off road tyres	1	SF-20-22-02						
63-2			1	SF-06-11-02			Winch			
63-3										
64-1	SG-01-L0 (new side)	17ft Dory 50 horsepower Yamaha 60FETO outboard motor 50 horsepower Yamaha 60FETO outboard motor Trailer	1	SF-07-11-01				Searchlight		
64-2			1	SF-06-31-01			Towing bracket (aft)			
64-3			1	SF-06-31-02						
64-4			1	SF-06-12-01						
Item	Location	Description	Quantity	Code	A1	A2	Q	Accessories	√	Comments
65-1	SG-02-L0 (new side)	Oil recovery vessel (OSCAR)	1	SF-07-11-02				2" ridged hose & fire nozzle		
65-2								2" suction hose & filter		
65-3								2 No. life rings c/w marker lights		
65-4								1 No. fire extinguisher		
65-5								Super 6 inflation pump		
65-6								5No. Buoyancy floats		
65-7		Trailer	1	SF-06-13-01						
65-8		Outrigger guidance booms	1	SF-01-24-01						

65-9		Outrigger guidance booms	1		SF-01-24-02					
65-10	New Side	Bulk storage bag c/w 2" delivery hose	1		SF-05-31-01					
66-1	Mobile	Fork lift	1		SF-08-11-01				Set of forks	
66-2									Attachment for ball hitch	
67-1	SE-02-L0	Dibo W921 pressure washer	1		SF-08-21-01				Pressure lance and hose	
67-2									Suction hose c/w filter	
68-1	SE-02-L0	Dibo W921 pressure washer	1		SF-08-21-02				Pressure lance and hose	
68-2									Suction hose c/w filter	
69										
70-1	SC-01-L0	Anchor sets (Danforth 20kg)	15						20 Kg anchor, shackle & 5m chain	
70-2									Buoy (Polyform A4)	
70-3									20mm x 100m rope with shackles	
70-4									30m trip line c/w small buoy	
71-1	SC-01-L0	Anchor sets (Seaclaw 20kg)	4						20 Kg anchor, shackle & 5m chain	
71-2									Buoy (Danfender B50)	
71-3									20mm x 100m rope with shackles	
71-4									30m trip line c/w small buoy	
72-1	SC-01-L0	Spare buoys (Scanmarin NB60)	10						15m lines	
72-2									Shackles	
72-3									Snap-hooks	
Item	Location	Description	Quantity	Code	A1	A2	Q	Accessories	√	Comments
73	SB-05-L2	13bags of 125mm x 3m 12bags of 125mm x 3m	156m 144m	No.1 No.2						Light oil
74	SB-04-L2	10 Bags of 200mm x 3m 10 Bags of 200mm x 3m	120m 120m	No.3 No.4						Light oil
75	SA-03-L2	15 Bags of 200mm x 3m 8 bags of 125mm x 3m	90m 96m	No.5 No.6						Light oil

76	SB-02-L2	15 Bags of 200mm x 3m 10 Lengths of 200mm x 4m	90m 40m		No. 7 No. 8						Heavy oil
77	SB-01-L2	10 Bags of 200mm x 6m 10 Bags of 200mm x 6m 10 Bags of 200mm x 6m	60m 60m 60m		No.9 No.10 No.11						Heavy oil
78	SA-06-L2	4 Bags of 200mm x 3m (4 per Bag) 10 Bags of 200mm x 4m (2 per Bag) –Ab. - Boom	16 20	48m 80m	A B						Heavy oil
79	New Shelves	4 Bags of 6m Skirted Boom 10 Bags of 200mm x 4m (2 per Bag)		48m 80m							Heavy oil
80	SA-05-L2	10 Bags of 200mm x 3m (4 per Bag) 8 Bags of 200mm x 3m (4 per Bag) – Ab-Boom	40 32	120m 96m	C D						Light oil
81	SA-04-L2	8 Bags Of 200mm x 3m (4 per Bag) 10 Bags of 200mm x 6m (2 per Bag) – Ab-Boom	32 20	96m 120m	E F						Light oil
82	SA-03-L2	8 Bags of 200mm x 3m (4 per Bag) 10 Bags of 200mm 6m (2 Per Bag – Ab-boom	32 20	96m 120m	G H						Light oil
83	SA-02-L2	10 Bags of 200mm x 6m (2 per bag) 12 Bags of 200mm x 3m (4 per Bag) – Ab-Boom	20 48	120m 144m	I J						Heavy oil
84	SA-01-L2	12 Bags of 200mm x 3m (4 per Bag)	48	144m	k						
86	SB-07-L1	1.2m x 75mm absorbent socks 10 boxes of 12	120								
87	SA-06-L1	Onion bags									
88	SA-05-L1	4m empty boom sleeves	14								
90	New Side	10 kg bags of loose peat Small bags loose peat	17 10								
92	SC-02-L0	Oil absorbent pillows 7 x packs of 10	70								
93	NEW SIDE	Oil absorbent pads 54 x packs of 200	10800								
94	SB-06-L1	Oil absorbent rolls	13								
Item	Location	Description	Quantity	Code	A1	A2	Q	Accessories	√	Comments	
95-1		2m x 75mm chemical absorb socks 4 boxes of 20	80								
95-2	SC-04-L0	4m x 200mm chemical absorbboom10 bags of 2	20								
95-3		Bags of chemical sorbent	2								

95-4		Chemical absorbent pads 10 packs 200	2000								High Level on New Shelves	
95-5		Safety helmets with face screens	10									
95-6		Nitril gauntlets 2 bales of 10	20									
95-8		Emergency chemical spill bags	3									
96	SC-04-L0	Galvanised dustbins	20								High Level on New Shelves	
97	SD-01-L0	Over spill drums	2									
98-1	SA-03-L1	Stand pipe - single head	2									
98-2		Stand pipe - double head	2									
98-3		Stand pipe double head adapter	1									
98-4		AWG no1 branch pipe (fire nozzle)	7									
98-5		Diffuser nozzle (spray nozzle)	4									
98-6		Fire water hoses 1.5" x 20m	24									
98-7		Fire water hoses 3" x 20m	2									
98-8		3" male to 2 ½" female camlock fittings	8									
98-9		3" female to 2 ½" male camlock fittings	9									New "store specific" order for fittings needs to be placed For all fittings as stock has diminished over the years
98-10		3" female to 2" male camlock fittings	1									
98-11		2½" male to 2" male camlock fitting	1									
99-1	SC-02-L0	Hard hose 2" x 6m	8									
99-2		Hard hose 2" x 11m	4									
99-3		Hard hose 2 ½" x 30m 5 per pallet	10									
99-4		Hard hose 3" x 30m 3 per pallet	9									
99-5		Hard hose 3" x 50m 3 per pallet	6									

Item	Location	Description	Quantity		Code	A1	A2	Q	Accessories	√	Comments
100-1	SC-04-L0	Emergency spill box - hand tools	6						5 shovels		
100-2									3 spades		
100-3									5 grain scoops		
100-4									4 scrapers		
100-5									3 deck brushes		
100-6									5 squeegees		
100-7									4 rakes		
100-8									2 pitch forks		
100-9									200 black bin bags		
101-1	SA-02-L1	Emergency spill box - PPE	10						4 pairs of safety wellingtons		
101-2									4 hard safety hats		
101-3									4 pairs fabric overalls		
101-4									20 pairs hide gloves		
101-5									4 pairs safety goggles		
101-6									4 sets rain gear		
101-7									5 pairs disposable suits		
101-8									1 box nitril disposable gloves		
103-1	SA-02-L1	Spare PPE							230 pairs hide gloves		
103-2									450 pairs disposable overalls		
103-3									6 sets medium rain gear		
103-4									10 hard safety hats		
103-5									7 boxes of Nitrile Disposables		
103-6									26 safety glasses		
103-7											
									√		

Item	Location	Description	Quantity	Code	A1	A2	Q	Accessories	Comments
104	SA-06-L0	12ft handle poles	10						
105	SA-04-L1	Sledge hammer	2						
106	SA-04-L1	2" round stakes							
107	SA-04-L1	3" round stakes							Need new stakes
108	SA-04-L1	Barrier tape - 5 boxes of 10 & 4 separate	54						
109	SB-07-L0	Coils 12mm rope							
110	SB-07-L0	Coils 18mm rope	3						
111	SB-07-L0	Coils 24mm rope							
112	SA-02-L1	Intrinsically safe torches (2 cell)	15					20 x size "D" batteries	OUT OF DATE in 2026
113	SA-02-L1	Flashlights	20					60x size "AA" batteries	OUT OF DATE in 2027
116	SA-02-L1	Manual lifejackets	5						
117	SA-02-L1	Dust masks 4 boxes of 50							
119	SA-03-L1	Dry powder fire extinguisher	6						DUE Service
120	SA-04-L1	Signage, traffic & warning, various	21						
121	SA-04-L1	Traffic cones	16						Need more
123	SD-01-L0	Rolls plastic sheeting	60		√				
124	SA-01-L1	Refuse bags 4 x 200 rolls	800						
125	SA-06-L1	Sand bags	1000						
126	SA-06-L1	Lettuce roll (wire mesh)	1						
127	SA-01-L1	Padlocks							
129	SA-01-L1	DF2/Oilfree dispersant/cleaner	3						
130									
131	SA-01-L1	Oil sample kit							
132	outside	IBCs	3						
Item	Location	Description	Quantity	Code	A1	A2	Q	Accessories	Comments
133-1	SA-02-L1	Small first aid boxes	3					4 triangle bandages	√

133-2									2 large dressings		
133-3									6 disinfectant wipes		
133-4									1 pkt safety pins		All out of Date
133-5									1 pkt of 20 assorted plasters		No point in Re Stocking
133-6									1 pair disposable gloves		Until event happens
133-7									Guidence notes		
134-1	SA-02-L1	Large first aid box	1						8 triangle bandages		
134-2									6 eye patch dressings		
134-3									12 medium dressings		
134-4									4 large dressings		
134-5									20 disinfectant wipes		
134-6									3 pairs disposable gloves		
134-7									2 pkts of assorted safety pins		
134-8									6 pkts of 10 assorted plasters		
134-9									Guidence notes		
135	New Side	Wildlife response equipment							A lot of equipment is out of date.		
136	SA-05-L2	Absorbent Pads 18 packs of 200	3600								
137	SB-01-LO	Desmi 7.5 Kw Power Pack	1		SF-09-01-02				10m Hydraulic Hose Set		
138	SB-02-LO	PB-46LN Air Inflator	1		SF-04-42-02						
139	New Side	Karcher HDS 801 D Pressure Washer	1		SF-12-01-01						
140	New Side	Karcher HDS 801 D Pressure Washer	1		SF-12-01-02						
141	New Side	Loncin 8kva Petrol Generator	1		SF-11-01-01						
142	New Side	Medium Sized Fast Tanks 4000L Capacity Approx	4		SF-10-01-01 SF-10-01-02 SF-10-01-03 SF-10-01-04						

143	Mobile	Val 6 , Diesel Blow Heater	1		SF-11-01-02			
144		Drive-In Tribund 10400L 13M X 4M X 300MM	1					
145	SB-02-L0/L1	Darcy Silver Boom Inflatable 750's in 25m lenghts	8		SF-01-21-11/18			
146	New Side	Honda 6.5 Petrol Genie	1		SF-11-01-03			
147	SA-02-L0	Komara 20 k Skimmer (With Cover)	1		SF-02-23-02			
148	SA-02-L0	V190 Lobe Pump	1		SF-13-01-01			
149	SA-01-L0	GP-10 2E Power Pack (with Cover)	1		SF-03-14-03			
150	New Side	Ro-Mop OM 140 D With storage Tank	1		SF-02-31-02 SF-02-31-03			
151	New Side	Desmi A-Boom (750 Fence Boom)	200m					
152	External	ISO 20Ft Transport Container	1					

2 X Towing Bridles

2 Hard Suction Hoses.
1 x set 10m Hyd. Hoses
6M Hyd. Hose Set

Annex 4 – Communication Equipment and Protocols

Communication Equipment and Protocols.

SEAPT has a number of means of communications for responding to any incident.

In recognising the extent of the coastline around the Estuary and neighbouring counties, and the remote nature of several areas, SEAPT has invested in the TETRA network and has 6 x TETRA units available for deployment. TETRA provides secure and encrypted mobile voice communications. The TETRA network is used by the Principal Response Agencies (PRAs) including An Garda Síochána, National Ambulance Service and the Local Area Fire Services. In the event of a multi-agency response, SEAPT has the potential to add additional channels to ensure inter-operability with the PRAs. One of the TETRA units available is ATEX rated allowing for use in areas with a potentially explosive atmosphere.

SEAPT is also licenced and has a stock of 6 x UHF sets available for deployment throughout the potential area of operations, including from Co. Galway to Co. Kerry.

In the event of an on-water response being required, SEAPT has 6 x VHF sets available for deployment.

The web-based GIS oil spill and tracking model includes the potential to securely send written messages. Access to this model is available to all members.

SEAPT also has a laptop with associated wifi hub to allow for internet communications to be established at a remote site. This provides for internet access and allows for access to web-based resources including the oil spill and tracking model, email and plan templates.

The above formal communications are enhanced by additional equipment held by individual members. This includes VHF and UHF communications operated by Terminal and Jetty Operators.

Communications are also underpinned by landline and mobile phone connectivity.

Message board on SEAPT Oil Spill GIS model.

5.3 Message Board

The **Message Board** may be accessed through the **Tools** menu. The message board allows the user to send messages to the user's group or to all groups. In addition, the message board is used by administrators to inform users about any event related to the system. Each message contains message owner information and only the message owner or administrator can delete the message. Administrators can view all messages.

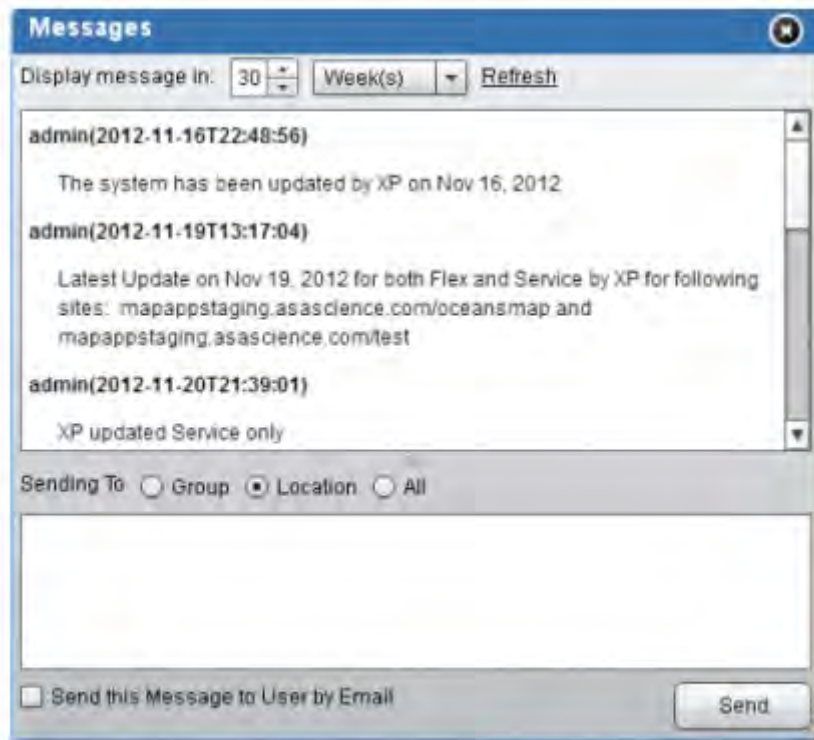


Figure 41. Message Board

Annex 5 – Tier 2 Service Agreement



Ref : 20240117PCSEA-PTIRSCLbmcga

Date : Wednesday, 17 January 2024

Re : Shannon Anti Pollution Team Tier 2 Incident Response Support

To whom it may concern,

We hereby confirm that Pollution and Waste Services is contracted and retained by Shannon Estuary Anti-Pollution to provide incident response services including maintaining in a state of readiness the incident response equipment stockpile held at the SEA-PT Base in Foynes Harbour, operate a call out service to respond within the entities scope of coverage providing the full gambit of Tier 2 Incident Support Services including IRS Equipment Mobilisation, Incident Management Assistance, Specialist Advice, Provision of Clean Up Personnel/Resources and Logistical Support. In addition all such services will be committed to assist in any way possible in dealing with any Tier 3 Incident that may occur within SEA-PT's scope of coverage.

An open contract is in place and our standard terms and conditions are applicable.

Incident response products and services provided by PWS Ltd are delivered in accordance with the requirements of the organisation's Quality Management System which is independently accredited by National Standards Authority of Ireland as meeting the I.S. EN 9001:2015 Standard.

PWS Ltd is an ISAS (International Spill Accreditation Scheme) accredited Oil Spill Response Organisation being accredited to the highest possible level (Level 3) in all available categories which include :

- Groundwater
- Freshwater
- Road Tanker Roll-Over
- Marine Level 3
- Marine Level 3

PWS Ltd has also been accredited by the International Spill Accreditation Scheme (ISAS) as an approved Oil Spill Response Organisation (OSRO) in accordance with the MCA National Standard for Marine Oil Spill Response Organisations which requires any organisations providing Tier Two marine spill response services to Ports/Local Authorities to be accessed, approved and certified.

PWS Ltd holds approval in the following categories;

- Sheltered/Inland Waters
- Offshore Waters
- Coastal & Large Estuary
- Shoreline clean-up

Any queries or requests for information regarding any aspects of the above arrangements can be raised with or directed to the undersigned.

Yours Faithfully

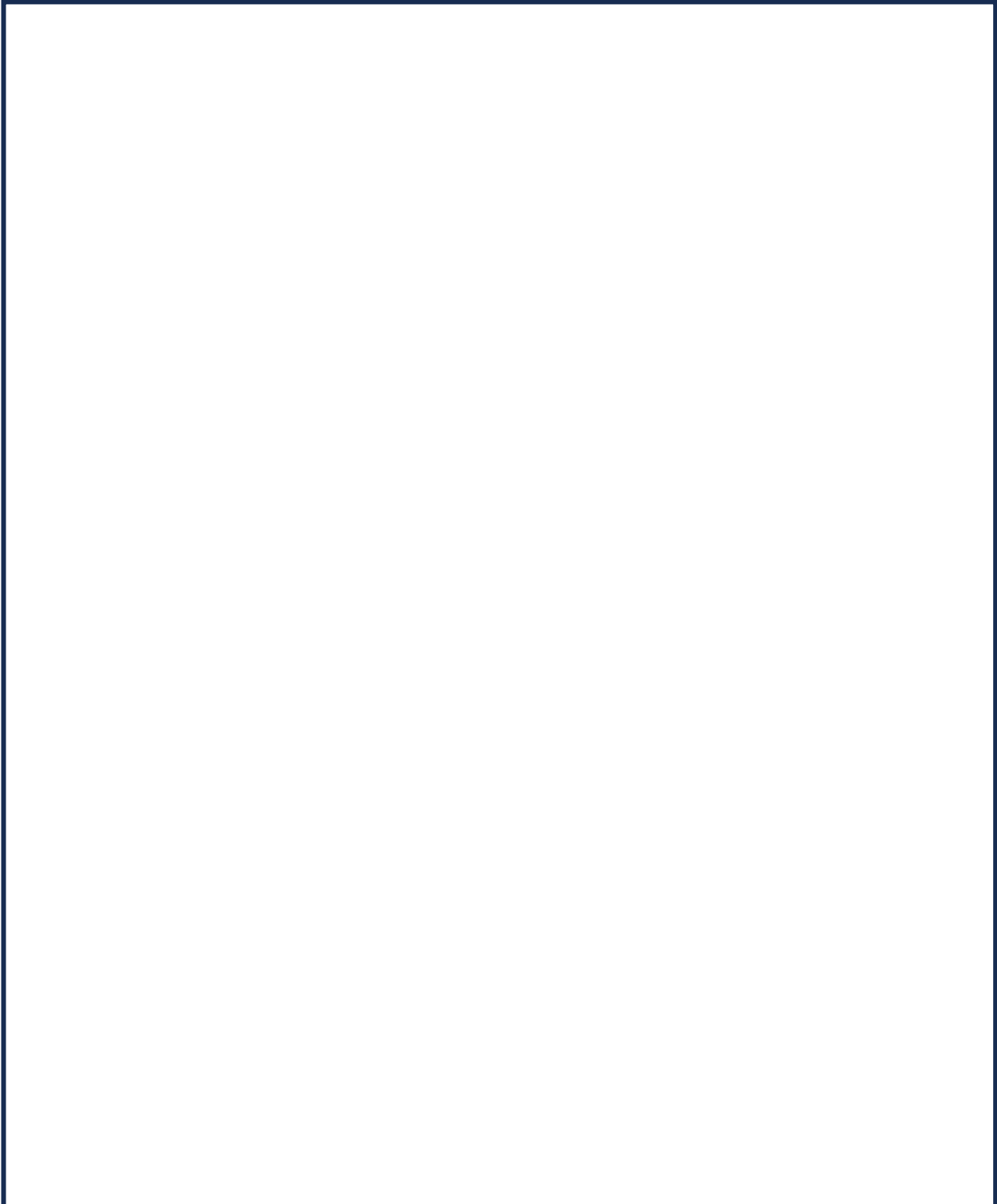
Brian Mc Gonagle
Managing Director

Unit 107, Baldoyle Industrial Estate, Dublin 13, Ireland

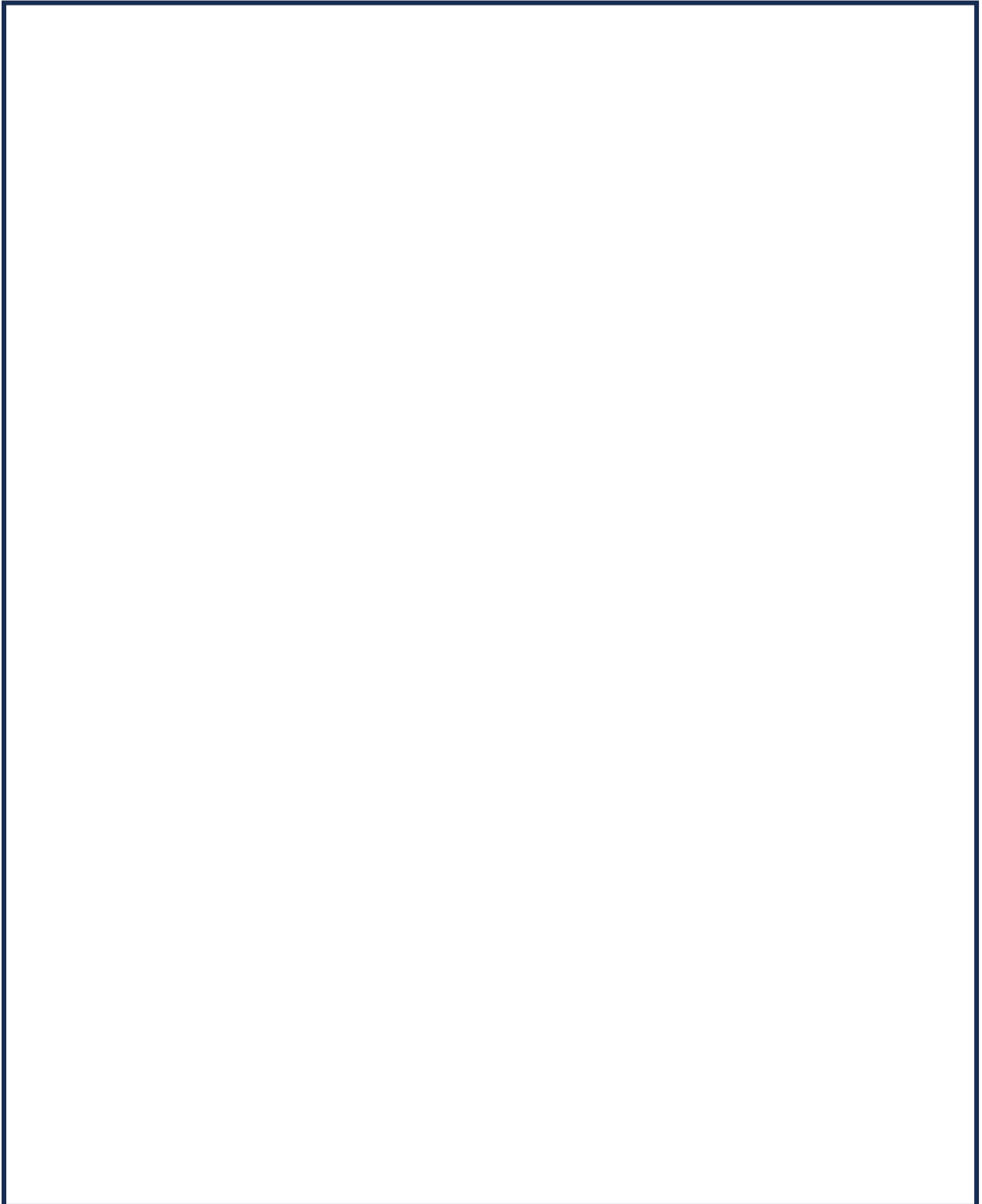
Telephone : +353 1 8391000 Facimile : +353 1 8391998 Email : info@pwsireland.ie

Annex 6 – Incident Command Forms

RECOGNISED CURRENT SITUATION



STRATEGIC AIMS



KEY ISSUES

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ACTIONS

Issue	Date	Status	Page No
2	Oct 2023	For review	209

Annex 7 Modelling Tools

SEA-PT utilize the Web-Based ASAScience OILMAP. OILMAP is an oil spill response and contingency planning tool and would be utilised for oil spill trajectory modelling. It is also used for the pre-planning and the creating on specific response and booming plans.

