

Participant's Manual

IMO MODEL COURSE ON OIL POLLUTION, PREPAREDNESS, RESPONSE AND COOPERATION

3rd Edition, 2019

Introductory Level

Level 1

Level 2

Level 3



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INTRODUCTION

The purpose of this Participant's Manual is to provide participants with guidance in the use of the course materials and hand-outs both during and after the course.

GENERAL

The International Convention on Oil Pollution Preparedness, Response and Cooperation, 1990 (OPRC) calls for the International Maritime Organization (IMO), along with relevant international and regional organizations, oil and shipping industries, to develop a comprehensive training programme in the field of oil pollution preparedness and response, together with the necessary expertise to develop and implement it. In this regard, four model training courses were developed, aimed at the following:

Introductory Level:	Raising Awareness
Level 1:	First Responders (Operational)
Level 2:	Supervisors and On-Scene Commanders (Tactical)
Level 3:	Administrators and Senior Managers (Strategic)

These courses, when properly linked to a country's national contingency plan, can be used to train staff who are responsible for the conduct and management of an effective response to a marine oil spill.

The Level 3 course was designed to be conducted as a four-day course and is aimed at senior administrators and managers who may have a role in establishing a country's preparedness or response to an oil pollution incident.

STRUCTURE OF THE COURSE

COURSE OBJECTIVES

Each module and the lessons contained therein have a clearly stated objective or set of objectives. These objectives state what you are expected to achieve by the end of the lesson. It is important to note that the objectives are not guidelines for instructors of what is expected while facilitating the subject matter. The instructor's role during the session is to ensure that the participants are able to achieve the stated objectives.

PARTICIPANTS' QUALIFICATIONS AND EXPERIENCE

The course is designed as an intensive learning experience. The course design assumes that you do not have extensive experience in oil spill response but do have a responsibility for ensuring that such capabilities exist in your company, department or country. The emphasis of the course content is on response strategies and policies; it is not on response procedures and tactics, which are addressed in the Levels 1 (Operational) and 2 (Tactical) courses.

This course addresses the response management and planning functions of senior management and administrators, either in the public sector or in industry. It does so in the context of the application of management and planning practices to an oil spill and does not attempt to teach basic management or planning theory.

During the course you are expected to:

- work hard;
- ask questions;
- complete assignments and exercises accurately and on time;
- cooperate with the course director and instructional staff;
- assist other participants during classroom and exercise discussions and assignments; and
- participate fully in all discussions (classroom, exercises, assignments, briefings, etc.).

FURTHER READING

At the end of each lesson there is a list of suggested reading, specifying the publications and materials approved by IMO. The sources have been compiled from documents that are commonly used and readily available online. This list is not exhaustive and participants are encouraged to source and read any locally relevant material.

There are a number of sources for further reading and reference and, as time passes, more are being developed. Participants are urged to research the latest publications and videos to ensure that the most recent and up-to-date versions are utilized.

COURSE MATERIALS

The course material on the course CD or USB pen drive consists of the following components:

- a complete set of slide presentations; and
- the Participant's Manual.

ACKNOWLEDGEMENTS

The training material is based on the Model Courses developed by IMO and approved by the Sub-Committee on Pollution Prevention and Response (PPR) and by the Marine Environment Protection Committee (MEPC) at its Seventy-first session (3–7 July 2017).

Where known, the sources of images, graphics and information is gratefully acknowledged on the presentation slides.

DISCLAIMER

Although all possible efforts have been made to ensure the correctness and completeness of the information provided. The content and materials presented in this Model Course do not necessarily reflect the relevant national policy and procedures of all member states involved in its development.

MODULE 3.1: OIL SPILL RESPONSE PREPAREDNESS

MODULE OBJECTIVE:

The overall objective of this module is to enable participants to implement an efficient oil spill preparedness and response system.

This section of the course focuses on an introduction to oil spills, the role and work of IMO, the key international conventions that apply to oil spill response and outlining the regional frameworks and partnerships that exist around the world. It also aims to convey an understanding of the requirements of the OPRC Convention, how to prepare a response system and the need for an efficient contingency planning system.

This module is composed of three lessons, two videos and one exercise:

- L.3.1: Course introduction;
- V.3.1: Video – Introduction to oil spills;
- V.3.2: Video – Introduction to the work of the IMO;
- L.3.2: The Legal Framework;
- L.3.3: Oil Spill Response Preparedness; and
- Ex.3.1: Exercise: Preparedness Review

The objectives for each lesson are described below.

LESSON 3.1: COURSE INTRODUCTION

Objective:

The objective of this lesson is for you to understand the aims and objectives of the training course.

At the end of this lesson, participants will:

- understand the timetable and course content of the training course;
- understand the organizational and domestic arrangements for the training course;
- have received a full safety briefing; and
- have been introduced to their fellow participants and facilitators.

Lesson summary:

It is important that you are briefed on the safety, domestic and organizational aspects of the course. This lesson plays a vital role in welcoming you to the course, introducing you to the facilitators and fellow attendees and ensuring that you are aware of the content of the course and your role within that.

Points to remember:

Your active participation in the course, discussions and exercises will contribute greatly to the success of the course.

VIDEO 3.1: INTRODUCTION TO OIL SPILLS

Objective:

The objective of this video is for you to gain an understanding of the size, scale and complexity of oil spills.

At the end of this video, participants will:

- understand the range and scale of oil spill incidents; and
- have an appreciation of the difficulties and complexities of oil spill response.

Lesson summary:

It is important that you have an appreciation of the potential size, scale and complexity of an oil spill or potential oil spill incident. This lesson plays a vital role in setting the scene for the remainder of the course.

Video link: <http://www.itopf.org/knowledge-resources/library/video-library/video/1-introduction-to-oil-spills/>

Points to remember:

Not all oil spills or potential oil spills are the same. They vary from low-level operational spills of limited quantities to significant releases with the attendant degree of response difficulty and complexity. It is vital that you are prepared, in advance, for any spill or potential spill.

Further reading:

- IMO. *International Convention on Oil Pollution Preparedness, Response and Cooperation, 1990 (OPRC)*, 1991 Edition, International Maritime Organization, London, 1991 (**Approved by IMO**)
- IMO. *Manual on Oil Pollution, Section V – Administrative Aspects of Oil Pollution Response*, 2009 Edition, IMO, London, 2009 (**Approved by IMO**)

VIDEO 3.2: INTRODUCTION TO THE WORK OF IMO

Objective:

The objective of this video is for you to gain an understanding of the role and work of IMO and its Member States.

At the end of this video, participants will understand:

- the role and work of IMO; and
- how this work is formed and driven by its Member States.

Lesson summary:

It is important that participants have an appreciation of the role and work of IMO, the contribution that they can make to its work and the range of support that can be accessed.

Points to remember:

The work of IMO is driven by its Member States. Active participation in the regular meetings can be of immense benefit to participants and to the organization as a whole.

Further reading:

- IMO. *International Convention on Oil Pollution Preparedness, Response and Cooperation, 1990 (OPRC)*, 1991 Edition, International Maritime Organization, London, 1991 (**Approved by IMO**)
- IMO. *Manual on Oil Pollution, Section I – Prevention*, 2011 Edition, International Maritime Organization, London, 2011 (**Approved by IMO**)
- IMO. *Manual on Oil Pollution, Section II – Contingency Planning*, 2018 Edition, International Maritime Organization, London, 2018 (**Approved by IMO**)
- IMO. *Manual on Oil Pollution, Section V – Administrative Aspects of Oil Pollution Response*, 2009 Edition, International Maritime Organization, London, 2009 (**Approved by IMO**)

LESSON 3.2: THE LEGAL FRAMEWORK

Objective:

The objective of this lesson is for participants to gain an understanding of the key international conventions that apply to oil spill response as well as the regional frameworks and Global Initiative partnerships that have been established around the world.

At the end of this lesson, participants will understand:

- the key international conventions, OPRC, MARPOL, INTERVENTION, SALVAGE and CLC; and
- the UNEP Regional Sea Area and the Global Initiative programmes.

Lesson summary:

IMO was established in 1948 as the United Nations specialized agency with the responsibility for the safety and security of shipping and the prevention of marine pollution by ships. Member governments use IMO to draw up internationally agreed standards that can be applied to all ships. IMO's mandate can be summarized into one phrase: **safe secure and efficient shipping on clean oceans**.

Today (XX 2017) IMO has 172 Member States and 3 Associate Members, representing a wide range of shipping interests throughout the world. In addition, there are organizations with consultative status or agreements of cooperation. Granting organizations consultative status allows IMO to obtain information or expert advice from non-governmental organizations (NGOs) with special knowledge about a particular section of IMO's activities and to enable such NGOs representing large groups, whose activities have an important and direct bearing on IMO's work, to express their points of view to IMO.

IMO has its headquarters in London and is staffed by nearly 300 international civil servants, headed by the Secretary-General. The IMO Secretariat facilitates the work of its committees and sub-committees and disseminates their decisions to all IMO members. In addition, it provides technical assistance to IMO Member States on matters related to the implementation and enforcement of IMO instruments (conventions, regulations, codes, guidelines, etc.).

In order to achieve its objectives, IMO has promoted the adoption of some 40 conventions and protocols and adopted well over 800 codes and recommendations concerning maritime safety, the prevention of pollution and other related matters. IMO's governing body is the Assembly, which meets every two years, and between Assembly sessions the Council, consisting of 40 Member Governments elected by the Assembly, acts as IMO's governing body.

IMO is a technical organization and most of its work is carried out through a number of committees and sub-committees. These include the Assembly, the Council and four main Committees: the Maritime Safety Committee (MSC); the Marine Environment Protection Committee (MEPC); the Legal Committee; and the Technical Cooperation Committee. There is also a Facilitation Committee and a number of Sub-Committees that support the work of the main technical committees. Only Member States have the right to vote and make proposals for new activities to be considered by IMO. Associated members, inter-governmental and non-governmental organizations with observer status may submit technical documents and present oral statements but have no voting rights.

The Global Initiative (GI) is an umbrella programme under which governments work together through IMO and IPIECA (representing the oil industry) to assist countries in developing national structures and capability for oil spill preparedness and response. This programme was officially launched in Cape Town in 1996.

GI activities include workshops, training courses and exercises designed to encourage better communication and cooperation between government and industry. These events also support the development and implementation of regional, sub-regional and national oil spill contingency plans and encourage the ratification and implementation of the relevant international conventions.

GI activities currently focus on several regions. Each region has a project manager, who helps build local capacity and political will for the development and implementation of effective contingency plans. Experiences gained and results attained in one GI regional group provide good examples that can be replicated elsewhere at both the national and regional levels.

The Regional Seas Programme, launched in 1974 in the wake of the 1972 United Nations Conference on the Human Environment held in Stockholm, is one of UNEP's most significant achievements in the past 35 years.

The Regional Seas Programme aims to address the accelerating degradation of the world's oceans and coastal areas through the sustainable management and use of the marine and coastal environment, by engaging neighbouring countries in comprehensive and specific actions to protect their shared marine environment. It has accomplished this by stimulating the creation of Regional Seas programmes' prescriptions for sound environmental management to be coordinated and implemented by countries sharing a common body of water.

Today, more than 143 countries participate in 13 Regional Seas programmes established under the auspices of UNEP: Black Sea, Wider Caribbean, East Asian Seas, Eastern Africa, South Asian Seas, ROPME Sea Area, Mediterranean, North-East Pacific, Northwest Pacific, Red Sea and Gulf of Aden, South-East Pacific, Pacific and Western Africa.

The work of Regional Seas programme is coordinated by UNEP's Regional Seas Branch based at the Nairobi Headquarters. Regional Coordination Units (RCUs), often aided by Regional Activity Centres (RACs) oversee the implementation of the programmes and aspects of the regional action plans, such as marine emergencies, information management and pollution monitoring.

Points to remember:

It is important that you have an understanding of the key international conventions, initiatives and programmes that relate to oil spill response. This will assist you if you are considering ratification or implementation.

Further reading:

- IMO. *International Convention on Oil Pollution Preparedness, Response and Cooperation, 1990 (OPRC)*, 1991 Edition, International Maritime Organization, London, 1991 (**Approved by IMO**)
- IMO. *Manual on Oil Pollution, Section I – Prevention*, 2011 Edition, International Maritime Organization, London, 2011 (**Approved by IMO**)
- IMO. *Manual on Oil Pollution, Section II – Contingency Planning*, 2018 Edition, International Maritime Organization, London, 2018 (**Approved by IMO**)
- IMO. *Manual on Oil Pollution, Section V – Administrative Aspects of Oil Pollution Response*, 2009 Edition, International Maritime Organization, London, 2009 (**Approved by IMO**)

LESSON 3.3: OIL SPILL RESPONSE PREPAREDNESS

Objective:

The objective of this lesson is to give you an understanding of the requirements of the OPRC Convention, how to prepare to respond and the need for an efficient contingency planning system.

At the end of this lesson, you will understand:

- the requirements of the OPRC Convention;
- how to prepare to respond to an oil pollution incident; and
- the need for an efficient and effective contingency planning system.

Lesson summary:

Marine traffic presents a risk of marine oil pollution from collisions, groundings, transfer of oil cargo and bunkers and other marine accidents. The majority of oil spills from transportation are relatively small because they stem from minor operational accidents, such as valve and hose failures, which can be quickly stopped and controlled. Larger spills, running to thousands of tonnes (or tens of thousands of barrels), are much rarer and primarily arise from uncontrolled collisions and groundings, rupturing cargo and fuel tanks. The response to such pollution requires careful advance planning.

ITOPF Limited maintains a worldwide database of accidental oil spills from tankers, combined carriers and barges. This is used to generate statistics on numbers and sizes of spills, and to identify causes of spills. It allows long-term trends to be analysed, which has proved useful for assessing the risk of oil spills for contingency planning, and for evaluating the possible consequences of changes in tanker design and operation.

Shipping is perhaps the most international of the world's industries, serving more than 90 per cent of global trade by carrying huge quantities of cargo cost effectively, cleanly and safely. The ownership and management chain surrounding any ship can embrace many countries and ships spend their economic life moving between different jurisdictions, often far from the country of registry. There is therefore a need for international standards to regulate shipping – which can be adopted and accepted by all.

By as early as the end of the nineteenth century suggestions had been made for the creation of a permanent international maritime body to deal with these and future measures. This plan was not put into effect, but international cooperation continued in the twentieth century, with the adoption of still more internationally-developed treaties. By the time IMO came into existence in 1958, several important international conventions had already been developed, including the International Convention for the Safety of Life at Sea of 1948, the International Convention for the Prevention of Pollution of the Sea by Oil of 1954 and treaties dealing with load lines and the prevention of collisions at sea. IMO was made responsible for ensuring that the majority of these conventions were kept up to date. It was also given the task of developing new conventions as and when the need arose. It is now responsible for nearly 50 international conventions and agreements and has adopted numerous protocols and amendments. Twenty-three international conventions are directly related to the protection of the environment. Key amongst these is the International Convention on Oil Pollution Preparedness, Response and Cooperation (OPRC Convention).

Parties to the OPRC Convention are required to establish measures for dealing with pollution incidents, either nationally or in cooperation with other countries.

The focus of the OPRC Convention is on preparedness, response and cooperation. This is best met by having a suitable contingency plan. The purpose of a contingency plan is to have developed a predetermined sequence of communications and actions which can be quickly initiated to cope with an event of possible but uncertain occurrence. This involves the provision of a framework to respond to an oil spill or potential spill, ensures that broad consensus has been achieved on response measures, prior to the incident and allows you to meet or set legislative requirements.

It would be too cumbersome to have one contingency plan covering regional, national and local levels. Thus, a hierarchy of contingency plans needs to be developed and coordinated under a national system.

Points to remember:

It is important that you have an understanding of the requirements and benefits of the OPRC Convention in order to assist your country in meeting the requirements and ratifying the Convention. It is also important that you understand how best to prepare to respond to an oil pollution incident, as well as the need for an efficient contingency planning system. There has been a decline in the number of large oil spills worldwide, which may be attributed to legislation, training and preparedness.

Furthermore, all components of a contingency plan should be periodically and practically tested to prepare for a real emergency. In this regard, Article 6(2) of the OPRC Convention requires each Party to establish a programme of exercises for oil pollution response organizations and training of relevant personnel.

Four categories of exercises are identified, which allow different aspects of a plan to be exercised separately and promote understanding of the purpose and scope of the whole plan:

- Notification exercise – test the procedures to alert and call out the response teams via telephone or other means;
- Table-top exercise – interactively discuss a simulated scenario among members of a response team without involving the mobilization of personnel and equipment;
- Equipment deployment exercise – exercise deployment of oil spill response equipment at particular locations in response to an oil spill scenario; and

- Incident management exercise – simulate several different aspects of an oil spill incident with third parties who would actually be involved in a real emergency to test and train a whole response team.

Training of relevant personnel should include theoretical training at the appropriate level and practical deployment of equipment, as required. The IMO OPRC Model Training Courses could be used as a guidance to plan and conduct such a training.

Further Reading:

- IMO. *International Convention on Oil Pollution Preparedness, Response and Cooperation, 1990 (OPRC)*, 1991 Edition, International Maritime Organization, London, 1991 (**Approved by IMO**)
- IMO. *Manual on Oil Pollution, Section I – Prevention*, 2011 Edition, International Maritime Organization, London, 2011 (**Approved by IMO**)
- IMO. *Manual on Oil Pollution, Section II – Contingency Planning*, 2018 Edition, International Maritime Organization, London, 2018 (**Approved by IMO**)
- IMO. *Manual on Oil Pollution, Section V – Administrative Aspects of Oil Pollution Response*, 2009 Edition, International Maritime Organization, London, 2009 (**Approved by IMO**)
- IMO. *Manual on Oil Spill Risk Evaluation and Assessment of Response Preparedness*, 2010 Edition, IMO, London, 2010 (**Approved by IMO**)
- CEDRE. *Involvement of Sea Professionals in Spill Response*, 2012 (wwz.cedre.fr/en/Our-resources/Documentation/Operational-guides/Sea-Professionals, please send an email to documentation@cedre.fr to request full version)
- CEDRE. *Local Authorities’ Guide – What to do in the Event of a Spill*, 2012 (For an extract please visit: wwz.cedre.fr/en/content/download/1769/131926/file/extract-local-authorities.pdf please send an email to documentation@cedre.fr to request full version)
- IPIECA/IOGP. Oil Spill Risk Assessment and Response Planning for Offshore Installations, 2013 (<http://www.ipieca.org/resources/awareness-briefing/oil-spill-risk-assessment-and-response-planning-for-offshore-installations/>)
- IPIECA/IOGP. Oil Spill Exercises - Good Practice Guide Series, 2014 (<http://www.ipieca.org/resources/good-practice/oil-spill-exercises/>)
- IPIECA/IOGP Incident Management System for the Oil and Gas Industry – Good Practice Guide Series 2016 (<http://www.ipieca.org/resources/good-practice/incident-management-system-ims/>)
- IPIECA/IOGP. Oil Spill Training – Good Practice Guide Series, 2014 (<http://www.ipieca.org/resources/good-practice/oil-spill-training/>)
- IPIECA/IOGP. Mutual Aid Indemnification and Liability, 2016 (<http://www.ipieca.org/resources/awareness-briefing/mutual-aid-indemnification-and-liability-including-a-template-emergency-personnel-secondment-agreement/>)
- ITOPF. TIP 16 – Contingency Planning for Marine Oil Spills, 2011 (www.itopf.com/fileadmin/data/Documents/TIPS%20TAPS/TIP16ContingencyPlanningforMarineOilSpills.pdf)

EXERCISE 3.1: PREPAREDNESS REVIEW

Objective:

The objective of this exercise is for participants to establish and describe the current level of preparedness in their country or region. This will be used as a benchmark and revisited later in the course when participants will be asked to consider if they need to make any improvements to the current level and how that may be achieved. The format of the questions follows that of the ITOPF Country Profile review and can serve as important feedback to IMO.

At the end of this exercise, participants will have:

- consolidated the lessons learned from this module; and
- worked in teams to prepare a review of the current level of response preparedness within their country or region by answering nine short questions.



MODULE 3.2: PLANNING AND RESPONSE

MODULE OBJECTIVE

The overall objective of this module is to enable participants to understand the key technical aspects of oil spill response in order to implement an efficient National or Regional Contingency Plan and to respond efficiently to incidents.

This section of the course focuses on technical aspects such as available technical tools, risks assessment, impacts of oil spills, oil spills response options and places of refuge.

This module is composed of five lessons, two case histories and two exercises:

- L.3.4: Technical Tools for Oil Spill Response;
- L.3.5: Assessment of Spill Risks;
- L.3.6: Impacts of Oil Spills;
- Case History
- L.3.7: Oil Spill Response Options
- L.3.8: Places of Refuge and Salvage Considerations
- Case History
- Ex 3.2: Places of Refuge – risk assessment
- Ex 3.3: Selecting the appropriate response strategy

The objectives for each lesson are described below:

LESSON 3.4: TECHNICAL TOOLS FOR OIL SPILL PLANNING AND RESPONSE

Objective:

The objective of this lesson is for participants to understand the technical aspects and tools available for oil spill preparedness and response. More specifically, this lesson will discuss oil behaviour, sensitivity maps and oil spill modelling.

At the end of this lesson, participants will understand:

- oil weathering processes and their impacts on response;
- the important role of sensitivity mapping and how to use these maps for planning and response; and
- oil spill models and their limitations.

Lesson summary:

Oil spill preparedness and response involves a number of scientific concepts and tools that will play a significant role in these activities. Managers must understand how these concepts can affect contingency planning and response. The main technical aspects and tools for oil spill preparedness and response are:

- **Oil fate and behaviour:** physical processes causing oil to change once spilled in the environment

- **Trajectory modelling:** various types of models are available and can be used to evaluate oil trajectory
- **Sensitivity mapping:** information on sensitive resources that can be affected by oil spills

When oil is spilled into the marine environment, it becomes exposed to environmental conditions such as winds, waves and varying temperatures, which change the oil properties over time. This process is referred to as “oil weathering”. Oil weathering can affect oil toxicity and the effectiveness of response strategies. The principal weathering processes are as follows:

- **Spreading:** As soon as oil is spilled at sea, it starts spreading into a thin layer on the sea surface. Low viscosity oil tends to spread faster than high viscosity oil. The colour of the oil will change according to its thickness. Thick oil will remain black or brown while thin oil turns to rainbow and has a silvery sheen.
- **Fragmentation:** As oil spreads, oil slicks fragment into smaller slicks and patches under the action of winds, waves and currents.
- **Evaporation:** The lighter components of oil will evaporate over time. High temperature, rough seas and high winds will influence this process. Evaporation generally results in higher oil density and viscosity, which affects response strategies. Significant amounts of oil can be eliminated from the environment with this process.
- **Dispersion:** Oil droplets of various sizes mix into the water column under the actions of breaking waves. This process is principally observed with low viscosity oil. While small oil droplets may remain in the water column and dilute, larger oil droplets will rise back to the sea surface to form new oil slicks.
- **Emulsification:** With the action of waves, some oil will take up water droplets, which will become incorporated into the oil matrix forming an emulsion. Oils with an asphaltene concentration above 0.5% or with a nickel/vanadium concentration above 15ppm are likely to form an emulsion. Emulsification will increase the volume of the pollutant up to five times and will significantly increase oil viscosity, complicating the clean-up and altering other weathering processes.
- **Sedimentation:** Dispersed oil droplets can interact with sediment particles or organic matter suspended in the water column which will increase their density and result in the sinking of these oil-sediment particles. This is usually observed in shallow coastal areas or estuaries.
- **Stranding or shoreline interaction:** In almost all cases, oil eventually reaches the shoreline where it will become stranded. The persistence of oil on the shoreline depends on the type of shoreline and its exposure to sea energy.
- **Biodegradation:** Many microorganisms living in seawater are able to use oil compounds as an energy source. This eventually leads to the successful degradation of oil and its removal from the environment. The speed at which this process takes place is highly dependent on the availability of oxygen and nutrients, as well as oil type and temperature. Processes increasing surface area, such as dispersion, will also improve the biodegradation rates.

Oil spill models are a useful tool not only during the response to an oil spill, but also during the development of contingency plans as they can predict oil weathering and potential oil trajectories. Various types of models are available:

- **Oil weathering:** These models calculate the effect of weathering processes on oil. They are useful to evaluate how oil properties such as viscosity and density change over time and how they affect response strategies.
- **Stochastic:** Stochastic or probability modelling provides information on the likelihood of specific areas being impacted by oil. It uses historical hydrodynamic and meteorological data to run multiple oil trajectories that are combined to provide an illustration or probability of

where oil might travel over time. Stochastic modelling is very useful for risk assessment or contingency planning. It is not used during response to an oil spill.

- **Deterministic:** Deterministic modelling calculates the oil trajectory for specific hydrodynamic and meteorological conditions. This is extensively used during oil spill responses, as it provides oil trajectory over time.
- **Hind cast:** Hind cast modelling is a back-track trajectory modelling. It is used to identify the likely source(s) of an oil spill. It is especially useful when dealing with a mystery spill.
- **3D:** 3D models are sophisticated models that estimate oil behaviour and trajectory in the water column. These are especially useful to predict trajectory of oil release at the bottom of the sea, from a wellhead, for example. They use complex hydrodynamic data and require detailed information on oil characteristics.

Sensitivity maps are an important tool for contingency planning and oil spill responses. They provide important information on location of sensitive resources and their relative sensibility to oil. This information is necessary to identify response priorities and areas requiring protection from oil. Typically, sensitive resources are categorized into three groups:

- **Economic:** Areas or activities that will result in a loss of revenue if impacted by oil. Commercial fisheries, tourism (hotels, restaurants, etc.), salt production are typical examples of this category.
- **Social:** Human activities can be affected by the presence of oil or oil vapours. Activities such as nautical sports or amenity beaches are a good example.
- **Biological:** Various habitats and biological species can be affected by oil. Birds, salt marshes and mangroves are good examples of this category.

Points to remember:

Managers will have to make multiple decisions both during the preparation of the contingency plan or during response to an oil spill. Basic knowledge of the fate and behaviour of oil, as well as access to oil spill modelling and sensitivity maps are essential in order to identify potential issues and to make sound decisions in order to reduce damages from an oil spill.

Further reading:

- IMO. *Manual on Oil Pollution, Section IV – Combating Oil Spills*, 2005 Edition, IMO, London, 2005 (**Approved by IMO**).

LESSON 3.5: ASSESSMENT OF SPILL RISKS

Objective:

The objective of this lesson is to enable participants to evaluate oil spill risks and apply the results of the risks evaluation during the contingency planning process.

At the end of this lesson, participants will:

- be able to identify potential sources of oil spills;
- understand the different steps of an oil spill risks assessment; and
- understand how the results of the risks assessment influence contingency planning.

Lesson summary:

An oil spill risk assessment should be the foundation of any contingency plan. Risk assessment will ensure that the contingency plan addresses actual oil spill risks and that response strategies are adapted. Typically, an oil spill risk assessment should answer two basic questions:

- 1) what is the likelihood of an oil spill; and
- 2) what are the potential consequences from that oil spill.

The likelihood of having an oil spill is estimated by identifying potential sources, collecting information on vessel traffic density and incident statistics. Oil spill sources include vessels such as tankers and non-tankers, oil handling facilities and offshore oil facilities such as platforms and FPSO. Traffic density can be estimated by collecting ship movement information such as AIS data and Ports statistics for ship calls. Incident statistics should be collected for groundings, collisions, refuelling operations, etc. and by vessel types in your area and internationally. By integrating all of these data together, it is possible to derive spill frequencies for each potential source and incident type. As an example, if incident statistics are showing one spill every 100,000 vessel movements from groundings and one area has 10,000 vessel movements per year, there is a 10% likelihood of a spill occurring in this area as a result of ship groundings per year.

To identify the potential consequences of an oil spill, information about social, economic and biological sensitivities should be collected, ideally using information on sensitivity maps. Information on spill frequencies, oil types and potential trajectory will enable the identification of sensitivities that might be affected by a spill. Using information on spill effects from literature, it is possible to estimate the likely consequences of a spill. The information on spill likelihood and consequences can then be used to design a risks matrix such as the following:

Probability	Consequences				
		Extreme	Very high	High	Moderate
Highly probable					
Probable					
Possible					
Unlikely					
Improbable					

For areas where risks are judged to be unacceptable or too high, risks management measures should be implemented to reduce this risk to an acceptable or manageable level. Results from the risk matrix will assist managers in identifying the type of equipment that is needed and areas where oil spill response equipment should be pre-positioned in order to deal with potential incidents.

Points to remember:

Risk assessment is an essential part of the contingency planning process as it will ensure your plan is tailored to the risks you are facing. It will provide information on oil spill likelihood and potential consequences, but the scope and scale of the risks assessment should be adjusted to your needs at the local and national level.

Further reading:

- IMO. *Manual on Oil Pollution, Section IV – Combating Oil Spills*, 2005 Edition, IMO, London, 2005 (**Approved by IMO**)
- IMO. *Manual on Oil Spill Risk Evaluation and Assessment of Response Preparedness*, 2010 Edition, IMO, London, 2010 (**Approved by IMO**)
- IPIECA/IOGP. *Oil Spill Risk Assessment and Response Planning for Offshore Installations*, 2013 (<http://www.ipieca.org/resources/awareness-briefing/oil-spill-risk-assessment-and-response-planning-for-offshore-installations/>)
- ITOPF. *TIP 2 Fate of Marine Oil Spills*, 2011 (www.itopf.com/knowledge-resources/documents-guides/document/tip-2-fate-of-marine-oil-spills/)
- ITOPF. *TIP 16 – Contingency Planning for Marine Oil Spills*, 2011 (www.itopf.com/fileadmin/data/Documents/TIPS%20TAPS/TIP16ContingencyPlanningforMarineOilSpills.pdf)

LESSON 3.6: IMPACTS OF OIL SPILLS

Objective:

The objective of this lesson is for you to be able to recognize potential impacts of oil spills on the environment, the economy and human use and use this information in the elaboration of an overall response strategy.

At the end of this lesson, you will:

- understand the toxicity of oil and factors affecting it;
- be able to identify potential impacts from oil on sensitive resources (biological and socio-economic);
- understand how to assess damages from an oil spill; and
- understand how the information on impacts affects oil spill response strategy.

Lesson summary:

Oil spills can have wide ranging impacts on social, economic and biological resources. The effects of oil have been studied extensively in the last 45 years and are well known. Typically, adverse effects are the result of interference, oil toxicity and oil smothering. Interference is when an activity cannot take place because of the presence of oil. Beach closure is a good example, as people cannot swim because of the oil on the beach. As we know, oil is composed of multiple chemical compounds. Some of these substances are more toxic than others and can affect biological organisms. Components that are of concern include Polycyclic Aromatic Hydrocarbons (PAHs), light fractions such as benzene, toluene, xylene, ethylene and in some cases heavy metals. However, toxicity depends on the sensitivity of organisms, oil concentration and duration of exposure. Smothering occurs when a significant layer of oil covers organisms present on a shoreline and generally leads to asphyxia. Oil exposure can cause death or acute effects such as contamination of flesh and can also cause chronic long-term effects, such as behaviour disruptions or physiological problems. It is important to note that managers should prioritize their concern to impacts on large populations over impact to a few individuals during a response, unless they are dealing with endangered or protected species where each individual is of high value. A number of factors affect the extent of impact from oil, including oil

type, degree of weathering, biological characteristics, geographical area, degree of oiling, oceanographic conditions and season.

Social and economic activities can be adversely affected by the presence of oil. Typically, oil spills interfere with these activities, resulting in economic loss or loss of enjoyment. The main coastal activities that can be affected by oil are the following:

- **Tourism:** Beach closure or the presence of oil in a highly touristic region will lead to fewer clients and therefore lost revenue for hotels and restaurants.
- **Water intakes:** Water intakes are very important for many coastal industries such as power generation plants, desalination plants or fish processing plants. Entry of oil into these systems can lead to serious malfunction and severe problems for populations.
- **Ports and marinas:** Presence of oil or contamination of structures can lead to closure or affect arrival of goods. This can lead to economic difficulties for industries and stores, resulting in shortages of vital goods.
- **Coastal communities:** In many parts of the world, populations live on or near the shore. Vapours, oil and clean-up operations can affect them. Many use the sea for subsistence and the presence of oil can have a severe impact on their lives.
- **Archaeological and cultural sites:** Many such sites are located in coastal areas that can be impacted by oil. These must be preserved and clean-up techniques often need to be adapted to minimize damage.

The marine environment is also impacted by oil. This environment is biologically diverse and resilience to oil will be highly variable amongst species. Generally, oil can affect the following species:

- **Plankton:** These are very sensitive to oil, especially dispersed oil. Generally there is no significant decline in population due to the species' high productivity.
- **Fish:** Free-swimming fish will usually avoid oil. Mortality can happen in shallow waters or due to dispersed oil. Generally there is a low impact on fish populations.
- **Marine mammals:** These can be affected when surfacing. Irritation to skin, airways and eyes are possible. Generally there is low impact on populations.
- **Sea turtles:** All species are endangered which make them a high priority for protection during a response. They are very vulnerable to oil, especially as they use sandy beaches to lay eggs. An oil spill during nesting season can have very serious impacts on population.
- **Seabirds:** Birds are often the most affected species during an oil spill. Deaths from contamination of feathers or oil ingestion are frequent. Significant impacts on population are possible. It depends on the number of individuals affected, the species and the season.
- **Corals:** Coral is very sensitive to oiling. Serious impacts can be observed to exposed corals or when dispersed oil is found near coral. The recovery time is usually very long.
- **Shorelines:** Degree of sensitivity to oil is very variable depending on shoreline type. Impact is dependent on oil persistence and biological activity. Mangroves, marshes and mud flats are all very sensitive to oil while rocky shorelines and sandy beaches are less so.

Fisheries can also be affected by oil spills, due to closure of fishing zones, contamination of fish and loss of public confidence in the quality of the product. Mariculture is especially vulnerable due to the potential contamination of structures, which fish cannot escape. Usually, free-swimming species will be less impacted because they can avoid the oil. Management strategies for fisheries often include organoleptic tests to detect tainting, chemical tests to measure levels of chemicals in fish flesh and marketing strategies to restore confidence.

Points to remember:

- Oil spills can interfere with coastal activities, causing loss of enjoyment and economic loss;

- Marine environment is affected by an oil spill;
- Effects and recovery time are highly variable depending on species;
- Effects are typically caused by physical contamination, smothering and toxicity;
- Many factors affect the severity of impact; and
- Health of populations is more important than individuals.

Further reading:

- IMO. *Manual on Oil Pollution, Section IV – Combating Oil Spills*, 2005 Edition, IMO, London, 2005 (**Approved by IMO**)
- IMO. *IMO/UNEP Guidance Manual on the Assessment and Restoration of Environmental Damage Following Marine Oil Spills*, 2009 Edition, International Maritime Organization, London, 2009 (**Approved by IMO**)
- IMO. *Manual on Oil Spill Risk Evaluation and Assessment of Response Preparedness*, 2010 Edition, International Maritime Organization, London, 2010 (**Approved by IMO**)

LESSON 3.7: OIL SPILL RESPONSE OPTIONS

Objective:

The objective of this lesson is to ensure that participants know and understand the various response options available to respond to a marine oil spill. This lesson will discuss the advantages and disadvantages of each option, as well as the selection methodology.

At the end of this lesson, participants will:

- know about available response options for oil spills at sea and on the shoreline;
- understand their basic principles, usefulness and limitations; and
- understand factors affecting the performance and selection of response options.

Lesson summary:

Response to oil spills can be complex and require basic knowledge of the response strategies available to responders. This knowledge is especially important for managers, who must select the appropriate response option for the situation. The objective of all oil spill response is to minimize damages to social, economic and biological resources. To meet this objective, various response options are available and they all have advantages and disadvantages. The efficiency of each method can be greatly affected by oil type, oil weathering, climatic conditions and oil trajectory. It is therefore important for managers to realize that a response needs to be tailored to the specific conditions of a given incident. The principal response options available to responders are as follows:

- **Aerial observation:** This is generally the first response action undertaken during an oil spill. It involves using a helicopter or fixed-wing aircraft to observe the oil. This will provide valuable information about oil behaviour, trajectory and size of spill. This information is essential to enable managers to identify proper response actions. Aerial observation must be conducted by trained personnel and experienced pilots.
- **Protection of sensitive resources:** Deploying booms to protect against the oiling of sensitive resources such as marshes, water intakes, marinas, etc., is one of the most cost effective and beneficial response options. Prioritization should be given to sensitive resources to prevent oil contamination of the most sensitive areas, and to identify areas where boom deployment has the highest chance of success. Many different types of booms are available, but most

varieties will fail and be ineffective in current speeds over one knot. Once a boom has been deployed, it is important to monitor its performance to ensure it is offering effective protection.

- **Containment and recovery:** This response option consists of using booms and skimmers to stop spreading and contain oil in order to remove it from the environment. Significant logistics and equipment is required to carry out this type of operation as it will involve booms, vessels, skimmers and some sort of storage tank. This strategy can be used nearshore as well as offshore. The success for this type of operation will depend on current speed, sea state, deployment time, storage capacity and encounter rate with oil. Trained personnel are needed to carry out this operation and often aerial support is necessary to guide response teams toward thicker parts of oil slicks. There are many types of skimmers available. Skimmer performance will be affected by oil type, as some will work better with light oil, while others will be more efficient with more viscous oil. Recent models have high capacity rates, which make the availability of temporary storage very important. Typically, containment and recovery when conducted at sea will recover between 10 and 15% of the spilled oil. This recovery rate will be highly dependent on oceanographic conditions.
- **Dispersants:** The objective of using dispersants is to promote and enhance natural dispersion of oil in the water column. Dispersants are specially formulated chemicals that will reduce surface tension and facilitate the formation of micron-size oil droplets (between 1 and 70 µm) with the assistance of energy from breaking waves. These small droplets will be suspended in the water column where they will be diluted and eventually biodegraded by microorganisms present in the sea. New generations of dispersants have low toxicity (lower than dispersed oil) and are more efficient than older generations. The main limitation of dispersants is oil viscosity. Typically, oil will be readily dispersible when its viscosity is below 5,000 cSt, and unlikely to be dispersible when initial viscosity is between 5,000 and 10,000 cSt. Since oil viscosity is likely to increase due to weathering processes, it is important to apply dispersant as early as possible after a spill occurs. Other limiting factors include sea state, as wave energy is necessary for dispersion to take place, and water depth, as dispersants should not be applied in shallow waters, as oil droplets may not dilute below toxic concentrations for marine life. Water depth of more than 10 m is recommended. Dispersants can be applied using aircraft or by boats. Aerial application of dispersants is more suited for larger offshore spills, as it will allow dispersant application over wider areas and in larger quantities. Application using boats or helicopters is more suited to smaller spills. This type of operation requires trained personnel and heavy logistical support to resupply vessels or aircraft with fuel and dispersants.
- **In Situ Burning:** In situ burning consists of igniting oil to remove it from the sea surface. This operation requires fire resistant booms in order to contain and concentrate oil before it can be ignited. Oil thickness must be more than 2 mm in order to sustain burning. The main issues with burning are from the smoke plume generated by burning oil, and oil residues once burning is complete. The smoke plume is typically composed of gases, CO₂ and particulates. Since some of these components can be toxic, it is important to avoid exposure of responders and population to smoke. Highly viscous burn residues can be produced by this technique. In some cases, these residues can sink or be difficult to recover because of their high viscosity. In Situ Burning can quickly remove significant amounts of oil while minimizing waste generation. However, the applicability of this response option is restricted for many countries by the limited availability of fire resistant booms and the fact that oil must be contained and concentrated before being ignited.
- **Shoreline clean-up:** The objective of shoreline clean-up is to remove oil from the shoreline to bring it back as close as possible to its original state without causing further damage. The main clean-up techniques are natural clean-up (using wave energy to remove oil over time), manual clean-up, mechanical clean-up, flooding/low-pressure wash and high-pressure wash. Shoreline type, degree of oiling and oil type will be the main factors to identify the proper

clean-up technique for a specific shoreline. Shoreline clean-up typically takes place in three steps, namely, removal of gross contamination, clean-up and polishing. It is important to carry out a shoreline evaluation in order to identify appropriate clean-up techniques and determine achievable end-points. More effort is needed as the clean-up progresses, which leads to the use of more aggressive techniques to collect limited amounts of oil. Managers must exert caution as these techniques may create further environmental damage if carried out inappropriately.

Points to remember:

- there are various response options available for oil spills, none of which is perfect;
- each response option has limitations;
- combination of methods is likely to be used during an oil spill; and
- managers must know how to select an appropriate response option.

Further reading:

- IMO. *Guidelines for the Use of Dispersants for Combating Oil Pollution at Sea* (to be published), International Maritime Organization, London (**Approved by IMO**)*
- IMO. *Manual on Oil Pollution, Section I – Prevention*, 2011 Edition, International Maritime Organization, London, 2011 (**Approved by IMO**)
- IMO. *Manual on Oil Pollution, Section II – Contingency Planning*, 2017 Edition, International Maritime Organization, London, 2017 (**Approved by IMO**)
- IMO. *Manual on Oil Pollution, Section IV – Combating Oil Spills*, 2005 Edition, IMO, London, 2005 (**Approved by IMO**)
- IPIECA/IOGP. *Mutual Aid Indemnification and Liability Oil Spill Response*, 2016 (<http://www.ipieca.org/resources/awareness-briefing/mutual-aid-indemnification-and-liability-including-a-template-emergency-personnel-secondment-agreement/>)

LESSON 3.8: PLACES OF REFUGE AND SALVAGE CONSIDERATIONS

Objective:

The objective of this lesson is to ensure that participants are aware of the Powers of Intervention, understand the role of the coastal State in respect of maritime casualties, are able to identify and designate Places of Refuge and understand the risk assessment process for determining Places of Refuge.

At the end of this lesson, participants will:

- understand the Powers of Intervention;
- understand the role of the coastal State in respect of maritime casualties;
- be able to identify and designate Places of Refuge; and
- understand the risk assessment process for determining Places of Refuge.

Lesson summary:

* Please note that Part IV of the IMO *Guidelines for the Use of Dispersants for Combating Oil Pollution at Sea* is currently under development.

There are many circumstances whereby the Master of a vessel may need external, specialist assistance. Initially the Master of the vessel should take immediate action to ensure the safety of the crew and passengers, the preservation of the ship and attempt to stop or limit cargo or bunker outflow. However, the Master may require specialist advice on stability, damage control and salvage. In addition to technical expertise, there may be the need for specialist equipment and intervention vessels. Depending on the location of the incident and the position of the responding equipment, it may be some time before these arrive at the site.

The Master, Shipowner or Manager engages salvors under a commercial agreement. The salvors' objective is to save the ship and cargo, remove them to a place of safety and to avoid, or minimize, any damage to the environment. However, the administration of the coastal State whose waters are affected or could be affected by the incident, has an overriding interest in the incident response. Notwithstanding this, the incident response requires cooperation between the salvors, coastal State, shipowners, cargo interests and property and liability insurers.

The Intervention Convention affirms the right of a coastal State to take such measures on the high seas as may be necessary to prevent, mitigate or eliminate danger to its coastline or related interests from pollution by oil or the threat thereof, following upon a maritime casualty. The coastal State is, however, empowered to take only such action as is necessary, and after due consultations with appropriate interests including, in particular, the flag State or States of the ship or ships involved, the owners of the ships or cargoes in question and, where circumstances permit, independent experts appointed for this purpose.

A coastal State should have a contingency plan, a system of receiving, assessing and evaluating incident reports, a system for the identification of hazards and the assessment of associated risks, a clear command and control system with decision-making capabilities and an understanding of the environmental, economic and social risks.

Points to remember:

When facing an oil spill or potential oil spill, managers need to consider not only the selection of the most appropriate response options but also how to minimize the potential loss of oil. The efforts of the salvors may reduce the amount of oil at risk of being lost. Managers need to understand what powers may be available to them, how their actions can assist the salvage process and how best to determine the risks of the proposed operations. Managers must have knowledge about these factors in order to make sound decisions not only at the time of an incident but also during the contingency planning stage.

Further reading:

- IMO. *Manual on Oil Pollution: Section II – Contingency Planning*, 2018 Edition, IMO, London, 2018 (**Approved by IMO**)
- IMO. *Manual on Oil Pollution: Section III – Salvage*, 1997 Edition, IMO, London, 1997 (**Approved by IMO**)
- IMO. *Manual on Oil Pollution: Section V – Administrative Aspects of Oil Pollution Response*, 2009 Edition, International Maritime Organization, London, 2009 (**Approved by IMO**)
- IMO. *Manual on Oil Spill Risk Evaluation and Assessment of Response Preparedness*, 2010 Edition, IMO, London, 2010 (**Approved by IMO**)
- IMO Resolution A.949(23), *Guidelines on Places of Refuge for Ships in Need of Assistance* (**Approved by IMO**), December 2003

- REMPEC, *Guidelines on the decision making process for granting access to a place of refuge for ships in need of assistance*. Decision IG 17/10. (<http://www.rempec.org/admin/store/wysiwigImg/file/Information%20resources/Guidelines/Place%20of%20refuge%20Guidelines%20%28E%29%20from%2015%20CPM.pdf>)
- Bonn Agreement, Bonn Agreement Counter Pollution Manual – Volume 2, Chapter 27 *Places of Refuge*. (https://www.bonnagreement.org/site/assets/files/1081/bonn_agreement_counter_pollution_manual.pdf)

EXERCISE 3.2: PLACES OF REFUGE – RISK ASSESSMENT

Objective:

The objective of this exercise is to consolidate the lessons from the Places of Refuge module, demonstrate the advantages of a likelihood and consequence matrix and risk register and enable participants to carry out an exercise using these tools. During the exercise, participants will be presented with various scenarios including information on oil type, weather conditions and threatened sensitive resources. Using this information, participants will need to identify potential response options.

At the end of this exercise, participants will:

- understand the advantages of a likelihood and consequence matrix;
- understand the use of the risk register; and
- have carried out an exercise with the matrix and register.

EXERCISE 3.3: SELECTING THE APPROPRIATE RESPONSE STRATEGY

Objective:

The objective of this exercise is for you to consolidate the lessons from this module and enable you to recognize and select the most appropriate response strategies. During the exercise, you will be presented with various scenarios including information on oil type, weather conditions and threatened sensitive resources. Using this information, you will identify potential response options.

At the end of this exercise, you will:

- understand the challenges in selecting a response strategy.

MODULE 3.3: RESPONSE MANAGEMENT

MODULE OBJECTIVE

The overall objective of this module is to give participants a deep understanding of management issues they will face during the implementation of a National or Regional contingency plan or during an oil spill response. It focuses very much on the organizational aspects of spill response such as roles and responsibilities and incident management.

This module is composed of six lessons and two exercises:

- L.3.9: Planning and Cooperation
- L.3.10: Strategic Directions and Policies – the Role of Senior Management
- L.3.11: Roles and Responsibilities of Government, Industry, etc.
- L.3.12: Leadership During an Emergency
- L.3.13: Incident Management Systems (IMS)
- L.3.14: Termination of Response
- Ex.3.4: How Roles and Responsibilities apply in Host Country/Region
- Ex.3.5: Incident Management Exercise

The objectives for each lesson are described below.

LESSON 3.9: PLANNING AND COOPERATION

Objective:

The objective of this lesson is to ensure that participants understand the organizational aspects to be considered when implementing National and/or Regional Contingency Planning, the role of the Competent National Authority, how to establish a response organization, the benefits of cooperation with industry and the development of a tiered response system.

At the end of this lesson, participants will:

- understand the organizational aspects that need to be considered when implementing National or Regional contingency planning;
- understand the role of the Competent National Authority;
- understand how to establish a response organization;
- appreciate the benefits of cooperation with industry; and
- understand the development of a tiered response system.

Lesson summary:

When responding to oil spills there are a number of decisions that have to be made very quickly. This can only be achieved if all participants are prepared, are able to make crucial decisions and can mobilize appropriate resources without hesitation and the minimum of delay. Many of these decisions are contentious and difficult. A fully developed and tested contingency plan, appropriate to your circumstances and requirements, will assist in achieving these goals.

The purpose of a contingency plan is the development of a predetermined sequence of communications and actions which can be quickly initiated to cope with an event of possible but uncertain occurrence. Careful planning is essential for a successful operation and is always the case when responding to an unexpected emergency. When there is a large oil spill many different agencies

and organizations are involved, each having a responsibility and a role to play in responding. A well-developed contingency plan addresses these requirements and provides a policy and response framework for the government and/or the industry organization to respond to an incident. It is important to have this in place as there are many issues that need to be resolved which are difficult enough when calmly sitting around a table; with the added pressure of an emergency situation these can become quite contentious issues. It helps ensure that the broad consensus has been achieved on response measures rather than having to rely on who happens to be on hand at the time of the incident. The plan will also help you meet or set legislative requirements under the OPRC Convention and fulfil your obligations as a signatory.

It would be too cumbersome to have one contingency plan covering regional, national and local levels. Thus, a hierarchy of contingency plans needs to be developed and coordinated under a national system. The Administration should determine how this hierarchy will apply in your country, establish the need for bilateral or regional plans and publish contingency planning guidelines for your country. The purpose of these Guidelines is to help shipowners, vessel operators, offshore installations, harbours and oil handling facilities (marine users) discharge their duty to plan for a response to marine pollution incidents. They are written for those who will prepare and execute such plans and for those who are responsible for its legal and other functions. These guidelines should promote a coherent national approach, and the adoption of good practice. It is crucial to the successful management of an incident that plans at the national and local level and local plans, including those of the marine users, fit together.

Cooperation is essential in both the planning and response phases. Within the national context all stakeholders need to be included in the national plan. There are many possible stakeholders, some with significant input, and some with lesser input. In order to manage the national plan and the input of stakeholders, consideration may be given to creating a coordinating committee plan. The coordinating committee should comprise the key stakeholders with responsibility for spill response. It should be chaired by the national competent authority who may also provide the secretariat. The committee should invite other stakeholders, as required. The function of the committee is to manage the national preparedness including preparation, training and exercising. This removes the responsibility from any one body and places it within the committee.

Points to remember:

An effective response to an oil spill is dependent to a great extent on the preparedness of the organizations and individuals involved. This can be addressed by developing and maintaining a contingency plan, establishing a body with responsibility for the management of the response, having a response organization in place in cooperation with industry and working within a tiered response system.

Further reading:

- IMO. *Manual on Oil Pollution: Section II – Contingency Planning*, 2018 Edition, International Maritime Organization, London, 2018 (**Approved by IMO**)
- IMO. *Manual on Oil Pollution –Section IV – Combating Oil Spills*, 2005 Edition, IMO, London, 2005 (**Approved by IMO**)
- IMO. *Manual on Oil Pollution, Section V – Administrative Aspects of Oil Pollution Response*, 2009 Edition, IMO, London, 2009 (**Approved by IMO**)
- IMO. *Manual on Oil Spill Risk Evaluation and Assessment of Response Preparedness*, 2010 Edition, IMO, London, 2010 (**Approved by IMO**)

- CEDRE. Local Authorities' Guide – What to do in the Event of a Spill, 2012 (For an extract please visit: wwz.cedre.fr/en/content/download/1769/131926/file/extract-local-authorities.pdf please send an email to documentation@cedre.fr to request full version)
- IPIECA/IOGP Incident Management System for the Oil and Gas Industry – Good Practice Guide Series 2016 (<http://www.ipieca.org/resources/good-practice/incident-management-system-ims/>)
- IPIECA/IOGP. Oil Spill Risk Assessment and Response Planning for Offshore Installations, 2013 (<http://www.ipieca.org/resources/awareness-briefing/oil-spill-risk-assessment-and-response-planning-for-offshore-installations/>)
- IPIECA/IOGP. Oil Spill Responder Health & Safety – Good Practice Guide Series, 2013 (<http://www.ipieca.org/resources/good-practice/oil-spill-responder-health-safety/>)
- ITOPF. TIP 16 – Contingency Planning for Marine Oil Spills, 2011 (www.itopf.com/fileadmin/data/documents/tips%20taps/tip16contingencyplanningformarneoilspills.pdf)

LESSON 3.10: STRATEGIC DIRECTIONS AND POLICIES

Objective:

The objective of this lesson is to ensure that participants understand the role of the administration and its senior management, understand and appreciate the benefits of bilateral and multilateral agreements and understand the role of government in an oil spill.

At the end of this lesson, participants will:

- understand the role of the administration and its senior management;
- understand and appreciate the benefits of bilateral and multilateral agreements; and
- understand the role of government in an oil spill.

Lesson summary:

One of the important tools we have available is the contingency planning process. Having identified the risks and the need for a contingency plan we need to determine the response strategy. This includes policy decisions which should reflect local and national civil emergency arrangements and any bilateral or regional undertakings.

The key policy decision is who leads the response. Is the response to be government-led, government directing the shipowner or shipowner-led, monitored by government? For the avoidance of doubt the role of government, industry and the shipowner's position must be made clear in the national plan.

Response priorities must be established as it is unlikely that all the resources at risk can be protected. Vulnerable resources must be ranked according to their importance to the country and local community. The desire to protect must take into account the practicalities of defence and protection. The administration may also have to take a number of policy decisions regarding fishing bans, bathing bans and public health issues.

Once the response priorities are established we need to consider the management objectives, by which we will monitor progress and, ultimately, terminate operations. These objectives include performance targets for all operations. This is critical in respect of shoreline operations. In the early stages of a shoreline clean-up, high volumes of oil are often recovered but as the progress continues the quantity of recovered oil diminishes. Often the efforts to remove the final patches of oil will at

some point become disproportionate to the benefits. It is at this point that our clean-up objectives become very important as we assess whether we have reached our objectives and can terminate or consider how much further effort we need to expend.

The approach to establishing response priorities and objectives should be through a system of Net Environmental Benefit Analysis (NEBA)*. This aims to balance the advantages and disadvantages of different response options with the aim of minimizing the overall impact on environmental and economic resources and reducing the time for recovery of affected resources by achieving an acceptable standard of clean-up.

It is useful to understand the following essential points on “Recommended Steps in Plan Development”, referring to the *Manual on Oil Pollution – Section II: Contingency Planning*.

1. Define scope of the plan

The first step is to define the scope of a contingency plan to be developed, i.e. a national contingency plan; a bilateral or multilateral agreement/contingency plan for regional cooperation; shipboard oil pollution emergency plan (SOPEP); or oil pollution emergency plans for offshore installations, sea ports or oil handling facilities.

References (*Manual on Oil Pollution – Section II: Contingency Planning*):

- National Oil Spill Contingency Plan (section 1.6)
- Industry oil spill contingency plans (section 1.9 and chapter 3)
- Bilateral or multilateral agreements/contingency plans (chapter 4)

The following steps 2 to 7 are examples for the case of a national contingency plan.

2. Conduct the risk assessments

In advance to develop a national contingency plan, it is necessary to conduct an assessment of oil spill risks in the waters and, if applicable, terrestrial or other areas under the national jurisdiction. To complete an oil spill risk assessment, the government will need to determine all of the operations that could result in the release of crude oil or refined oil products and calculate the probability and consequences of the potential spills.

It is also necessary to identify coastal environmental, socio-economic and cultural sensitivities in the threatened area so as to develop an effective response strategy, facilitate the prioritization of the sensitive areas for protection and thereby enable the most effective use of available response resources. In this regard, the preparation of sensitivity maps should be mandated under the national contingency plan and the associated national legislation.

References (*Manual on Oil Pollution – Section II: Contingency Planning*):

- Oil spill risk assessment (section 2.2)
- Sensitivity maps (section 2.6)

* For information, the concept of Spill Impact Mitigation Assessment (SIMA) is currently under development by the oil and gas industry and is a further development of the NEBA concept. Note that at the time of publishing this Model Course, SIMA has not been considered or reviewed by IMO.

3. Develop a strategy

To develop a strategy for oil spill preparedness and response and construct key contents of a national contingency plan, the following systems, procedures and elements should be considered.

- Pre-positioned oil spill response equipment

It is important to establish a minimum level of pre-positioned oil spill response equipment based on the identified risks, either individually or through bilateral or multilateral agreements and in cooperation with the oil and shipping industries, port authorities and other relevant entities.

The national contingency plan should describe the process by which response resources owned by, or available to, the government will be inventoried and available for rapid mobilization of the resources.

- Tiered response

Tiered response arrangements, including possible regional and international cooperation in case of major oil spills, may be established as a part of the national contingency plan, taking into account the local and national capability of oil spill preparedness and response and the result of the oil spill risk assessment and sensitivity mapping.

- Incident management system

As effective responses to a major oil spill are complex operations, an incident management system may be developed to achieve the seamless integration of material resources, operational processes and personnel from many different organizations under a commanding team qualified to lead the oil spill response.

- Roles and responsibilities

The national contingency plan should explain the roles and responsibilities of a National Competent Authority (or a lead government agency) and other government agencies that could be involved in an oil spill response. It should also describe the organizational structure to be used for the above-mentioned management system.

- Notification, reporting and alerting

The national contingency plan should identify an entity whose responsibility is to receive and disseminate a notification or report of a marine emergency, which could result or has resulted in an oil spill, to relevant government agencies and representatives to facilitate rapid communication among them.

- Assessment and monitoring of an oil spill

An immediate assessment of an oil spill is essential in determining the most appropriate response tactics and strategies. Such an assessment can be achieved by: estimating the volume and extent of the spill; conducting a health and safety hazard assessment posed by the floating oil; and predicting the spill's probable movement using drift or trajectory models and available meteorological and hydrographic data. In addition, a spill surveillance and monitoring programme (e.g. aerial observation) should be implemented to validate any model results and determine the actual movement, extent and characteristics of the oil slick. These assessment and monitoring measures should be described in the national contingency plan.

- Oil spill response strategy

An oil spill response strategy should be developed which involves the use of multiple response techniques selected as being the most effective at containing and/or removing spilled oil, while minimizing the negative effects of the spilled oil and response operations to the environment. It is essential to identify any policies, restrictions or prohibition on, or preference for, the use of selected response techniques based on spill location, environmental conditions, proximity to sensitive areas, etc.

- Waste management

A robust waste management plan should be included in the national contingency plan to achieve an efficient and effective oil spill response. Such a plan may contain: regulatory requirements or protocols associated with the characterization, storage, transport and treatment, recycling or disposal of oil spill wastes; the types or names of recycling, treatment and disposal facilities approved to accept oil spill wastes; and any waste management resources or services that can be provided by the government.

- Demobilization and termination of response

The national contingency plan should describe the general process for the demobilization of response equipment and other resources and what, if any, government approvals may be required for demobilizing key response resources. The plan should also outline a process for establishing clean-up/response end-points.

- Restoration and post-spill monitoring

Restoration and post-spill monitoring activities can be covered in the national contingency plan. In such a case, the plan should generally describe the conditions or scenarios under which monitoring or restoration would be required or considered as well as a summary of the monitoring and restoration processes. Existing restoration or monitoring regulatory requirements, protocols or guidelines should also be referenced in the plan.

References (*Manual on Oil Pollution – Section II: Contingency Planning*):

- Pre-positioned oil spill response equipment (section 1.7)
- Oil spill response resource coordination (section 1.10)
- Tiered response (section 1.11)
- National oil spill response management system (section 1.12)
- Notification, reporting and alerting (section 2.3)
- Oil spill assessment (section 2.4)
- National oil spill response management organization (section 2.5)
- Response resources (section 2.7)
- Response strategies (section 2.8)
- Waste management (section 2.9)
- Demobilization and termination of response (section 2.10)
- Restoration and post-spill monitoring (section 2.11)

4. Decide structure and layout

The structure and layout of the national contingency plan should be decided based on the key contents considered and established in Step 3 and the contents should include information on the designation

of the Competent National Authority, national operational contact points and, as necessary, references to the relevant international conventions and national legislation.

References (*Manual on Oil Pollution – Section II: Contingency Planning*):

- International conventions (section 1.1)
- National legislation and regulations (section 1.2)
- Designation of Competent National Authority (section 1.3)
- National operational contact point (section 1.4)
- National Oil Spill Contingency Plan (section 1.6)

5. Procure appropriate equipment

It is important to ensure the availability of adequate response equipment in case of an oil spill and maintain it in a serviceable condition and, if necessary, procure additional or replacement equipment. It is a common practice for national authorities to require the oil industry or private oil spill response organizations to maintain adequate response equipment on their behalf (in such a case, the requirements for them should be described in the national contingency plan).

References (*Manual on Oil Pollution – Section II: Contingency Planning*):

- Pre-positioned oil spill response equipment (section 1.7)
- Oil spill response resource coordination (section 1.10)
- Response resources (section 2.7)

6. Conduct training and exercise

The national contingency plan should outline a training and exercise programme in cooperation with the oil and shipping industries, port authorities and other relevant entities, that is designed to ensure a high level of oil spill preparedness, to build the national oil spill response capability, as well as strengthen bilateral or multilateral agreements on cooperation during an oil pollution incident.

References (*Manual on Oil Pollution – Section II: Contingency Planning*):

- Exercises, training and health and safety (section 1.8)
- Training, exercising, record keeping and plan updating requirements (section 2.12)

7. Update plan (section 2.12)

It is important to periodically assess the level of oil spill response preparedness to identify challenges, information needs and areas for improvement. In this connection, the national contingency plan should be regularly reviewed to incorporate lessons learned from training and exercises as well as actual incidents.

Regular updates of the contact points for notification and the inventory of available response equipment should also be made. In addition, any organizational or legislative changes that modify the response organizations or policies should be reflected in timely amendments to the affected contingency plan and communicated to all relevant parties.

References (*Manual on Oil Pollution – Section II: Contingency Planning*):

- Training, exercising, record keeping and plan updating requirements (section 2.12)
- Assessing oil spill response preparedness (section 1.13)

Points to remember:

Key articles of the OPRC Convention, Articles 6 and 7, require signatories to establish national and regional systems for preparedness and response and promote international cooperation in pollution response. These obligations fall on the signatories who are the governments of the coastal States. An understanding of the role of the administration, the benefits of close cooperation with neighbouring countries and the role of government in an oil spill will assist in meeting these obligations.

Further reading:

- IMO. *Manual on Oil Pollution, Section II – Contingency Planning*, 2017 Edition, International Maritime Organization, London, 2017 (**Approved by IMO**)
- IMO. *Manual on Oil Pollution, Section V – Administrative Aspects of Oil Pollution Response*, 2009 Edition, International Maritime Organization, London, 2009 (**Approved by IMO**)
- CEDRE. *Local Authorities' Guide – What to do in the Event of a Spill*, 2012 (For an extract please visit: wwz.cedre.fr/en/content/download/1769/131926/file/extract-local-authorities.pdf please send an email to documentation@cedre.fr to request full version)
- IOGP/IPIECA. *JIP 6 – Oil Spill Risk Assessment and Response Planning for Offshore Installations*, 2013 (www.oilspillresponseproject.org/wp-content/uploads/2016/02/JIP-6-Oil-spill-risk-assessment.pdf)
- ITOPF. *Tip 16 – Contingency Planning for Marine Oil Spills*, 2011 (www.itopf.com/fileadmin/data/Documents/TIPS%20TAPS/TIP16ContingencyPlanningforMarineOilSpills.pdf)

LESSON 3.11: ROLES AND RESPONSIBILITIES

Objective:

The objective of this lesson is to ensure that participants understand the roles and responsibilities of all parties that may be involved in an incident response.

At the end of this lesson, participants will understand:

- the roles and responsibilities of all the parties involved in the incident response;
- the need for preparedness;
- the need for defined operational procedures; and
- the need for training and exercising.

Lesson summary

There are many interested parties involved in an oil spill. These range from the owners or managers of the ship or installation, the salvors, the port authorities (if applicable), the owners of the cargoes, the insurers and compensation schemes and the administration whose waters are affected. In addition, there are a number of government agencies, National Contingency Plan (NCP) stakeholders and responders, including industry.

The roles and responsibilities of major parties are summarized below.

The shipowner (or a bareboat charterer or manager of the ship):

- documentation that is required and carried on board for oil pollution preparedness and response (Shipboard Oil Pollution Emergency Plan (SOPEP) under the OPRC Convention);
- notification of the marine pollution emergency to the nearest coastal State;
- pollution response and clean-up; and
- compensation for pollution damage

The ship operator (in most cases, the bareboat charterer):

- operation of the ship;
- commercial and operational management of the ship; and
- take on the same roles and responsibilities as the shipowner, except for the liability of compensation for oil pollution damage

The master:

- act as the agent of the shipowner for the operation of the ship (until the direct contact is established between the coastal State and the shipowner);
- deemed the agent of the cargo owner where the cargo is in danger;
- safety of the ship, the cargo and all personnel aboard;
- notify the nearest coastal State of the oil pollution incident;
- can reach agreement on salvage operations with a salvor on behalf of the shipowner (the 1989 Salvage Convention);
- cooperate with the salvor during the salvage operations to prevent or minimize damage to the environment; and
- make decisions to protect the marine environment in a marine pollution emergency, without being influenced by instructions given by the shipowner, charterer or any other person.

The cargo owner (oil companies):

- not responsible for marine pollution damage caused by the individual cargoes under the international legal regime on the liability of compensation;
- contribute to the international Funds (the 1992 Fund Convention and the Supplementary Fund Protocol) which provide additional compensation for oil pollution damage when the amount payable by the shipowner's insurer is insufficient to cover all of the damage;
- advise the coastal State on how to handle the cargo in an emergency if it has the knowledge of the cargo;
- assist in the identification of a suitable ship to be hired for lightering the ship; and
- cooperate with the salvor during the salvage operations, exercising care to prevent or minimize damage to the environment.

The flag State:

- enact and enforce all design and equipment standards, all safety and marine environment protection standards, and all crew certification and training;
- investigate a casualty in which one of the ships flying its flag has been involved; and
- hold an inquiry into every marine casualty, including where there has been serious damage to ships or installations of another State or to the marine environment

The coastal State:

- establish a national system for responding to oil pollution incidents which has, as a minimum, developed a national contingency plan and designated national competent authorities and

- operational focal points responsible for oil pollution preparedness and response, reporting and handling requests for assistance (the OPRC Convention);
- within its capabilities, either individually or through bilateral or multilateral cooperation and, as appropriate, in cooperation with the oil and shipping industries and other relevant entities, establish a minimum level of pre-positioned oil spill response equipment, proportionate to the risk involved, and programmes for its use (the OPRC Convention);
 - commit to cooperate and render assistance to Parties that request assistance to deal with oil pollution incidents, subject to capability and availability of relevant resources (the OPRC Convention);
 - notify other States of a marine pollution threat of which it becomes aware and which is likely to affect them;
 - cooperate with other States, as appropriate, in responding to major oil pollution incidents;
 - report oil pollution incidents to neighbouring States which may be affected;
 - cooperate with salvage operations, such as admittance into ports of ships in distress or the provision of facilities to salvors, so as to save life or property in danger and prevent damage to the environment (the 1989 Salvage Convention); and
 - cooperate with the flag State(s) in a marine casualty investigation

The salvors:

- carry out salvage operations based on “no cure – no pay” principle;
- endeavour to prevent or minimize damage to the environment during the salvage operations;
- assist a marine casualty by bringing specialist expertise to the task which is unique to the marine industry; and
- assist other companies in the provision of salvage services to a casualty, in the case that such companies do not have sufficient service resources at the site of the casualty

The liability insurer (P&I Clubs, mutual associations of shipowners):

- cover the shipowner's legal liabilities in the sense of damage or compensation which the owner is legally obliged to pay to others, together with certain other losses, costs and expenses, which are specified in the terms of the insurance given to the shipowner;
- raise the funds to enable the insurance by calling up the necessary sums from its members;
- issue a Certificate of Insurance or Other Financial Security on which the ship's CLC Certificate is based (the CLC Convention);
- have legal expertise in managing liabilities of the members and claims handling staff;
- engage advisers with specific expertise as may be required, to support an effective response to a spill and assist the mitigation of damage that may be caused by the spill.
- cooperate with the International Oil Pollution Compensation Funds (IOPC Funds) if the oil pollution affects a Party to the 1971 or 1992 Fund Convention;
- get involved in the decision on a possible lightering or removal (as a wreck) of the ship; and
- provide a service to their members to ensure that only provable, valid claims are actually paid, negotiating with the claimant

The NCP should define the legal framework (i.e. international, regional and bilateral obligations as well as national laws), the organizational structure and the responsibility for response within its jurisdiction. It should establish the government's responsibilities including: organizational arrangements for oil spill prevention, preparedness, response, recovery and remediation; planning requirements; monitoring and reporting; defining operational procedures; training and exercise standards; and financial and liability arrangements.

Points to remember:

Each oil pollution incident will differ in size and complexity, from minor localized incidents to large complex incidents possibly affecting one or more countries. In the same manner those parties involved in the response will also differ. This lesson explains the wide range of diverse parties that may be encountered in an oil pollution incident and looks at their responsibilities to the response.

Further reading:

- IMO. *Contingency Planning, Section II, Manual on Oil Pollution*, 2017 Edition, IMO, London, 2017 (**Approved by IMO**)
- IMO. *Manual on Oil Pollution, Section V – Administrative Aspects of Oil Pollution Response*, 2009 Edition, IMO, London, 2009 (**Approved by IMO**)
- CEDRE. *Involvement of Sea Professionals in Spill Response*, 2012 (wwz.cedre.fr/en/Our-resources/Documentation/Operational-guides/Sea-Professionals, please send an email to documentation@cedre.fr to request full version)
- CEDRE. *Local Authorities' Guide – What to do in the Event of a Spill*, 2012 (For an extract please visit: wwz.cedre.fr/en/content/download/1769/131926/file/extract-local-authorities.pdf please send an email to documentation@cedre.fr to request full version)
- CEDRE. *Management of Volunteers in Coastal Pollution Response*, 2012 (www.cedre.fr/en/Our-resources/Documentation/Operational-guides/Volunteers, please send an email to documentation@cedre.fr to request full version)
- IPIECA/IOGP. *Oil Spill Exercises - Good Practice Guide Series*, 2014 (<http://www.ipieca.org/resources/good-practice/oil-spill-exercises/>)
- IPIECA/IOGP. *Oil Spill Training – Good Practice Guide Series*, 2014 (<http://www.ipieca.org/resources/good-practice/oil-spill-training/>)
- IPIECA/IOGP *Incident Management System for the Oil and Gas Industry – Good Practice Guide Series 2016* (<http://www.ipieca.org/resources/good-practice/incident-management-system-ims/>)
- IPIECA/IOGP. *Mutual Aid Indemnification and Liability Oil Spill Response*, 2016 (<http://www.ipieca.org/resources/awareness-briefing/mutual-aid-indemnification-and-liability-including-a-template-emergency-personnel-secondment-agreement/>)
- ITOPF. *TIP 10 – Leadership, Command & Management of Marine Oil Spills*, 2012 (www.itopf.com/knowledge-resources/documents-guides/document/tip-10-leadership-command-management-of-oil-spills/)
- ITOPF. *TIP 16 – Contingency Planning for Marine Oil Spills*, 2011 (www.itopf.com/fileadmin/data/Documents/TIPS%20TAPS/TIP16ContingencyPlanningforMarineOilSpills.pdf)

LESSON 3.12: LEADERSHIP DURING AN EMERGENCY

Objective:

The objective of this lesson is to ensure that participants understand the leadership qualities required in incident management and how to avoid common management failures.

At the end of this lesson, participants will:

- understand the importance of leadership and leadership qualities;
- have considered the appointment of leaders;
- have considered some common management failures during incident response; and
- have considered how these failures may be avoided.

Lesson summary

It is important to recognize that irrespective of the structure of the response organization, the abilities of the response leaders will have an important bearing on the progress and outcome of the response.

These leadership qualities include the ability to command or manage personnel from a diverse range of organizations, to listen and respond to the concerns and suggestions of the various parties, to assimilate information from a wide range of sources and to make timely decisions based on this information. Leadership qualities also include the ability to set priorities, resolve conflicts, allocate limited resources, communicate decisions clearly, motivate team members, recognize the limitations of team members and reallocate tasks accordingly. It also includes the ability to ensure the response is technically reasonable, to resist pressure from politicians, media and the public to carry out unreasonable or dangerous activities, to determine the termination criteria and to reduce or terminate the response efforts when appropriate.

The leaders appointed should have prior relevant experience in a senior command or management position appropriate to the level and intensity of the incident.

While considering how to avoid management failures, it should be noted that each incident will differ in size and complexity and that a prerequisite for operational success is to establish an organizational structure scaled appropriately to the situation. The organization must have effective leadership and management and should be tested regularly and thoroughly through a series of exercises. It also needs to be capable of being scaled up or down, as appropriate. Clear and open lines of communication are vital to minimize confusion and delays.

In conclusion, lessons from incidents, training or exercises need to be learned and acted upon.

Points to remember:

Irrespective of the structure of the response organization, the abilities of the response leaders will have an important bearing on the progress and outcome of the response. It is therefore vital to understand the importance of leadership and leadership qualities.

Further reading:

- IMO. *Manual on Oil Pollution, Section II – Contingency Planning*, 2017 Edition, International Maritime Organization, London, 2017 (**Approved by IMO**)
- IMO. *Manual on Oil Pollution, Section V – Administrative Aspects of Oil Pollution Response*, 2009 Edition, IMO, London, 2009 (**Approved by IMO**)
- IMO. Guidance Document on the Implementation of an Incident Management of an Incident Management System (IMS), 2012 Edition, IMO, London, 2012 (Approved by IMO)
- IPIECA/IOGP. Oil Spill Exercises - Good Practice Guide Series, 2014 (<http://www.ipieca.org/resources/good-practice/oil-spill-exercises/>)
- IPIECA/IOGP. Oil Spill Training – Good Practice Guide Series, 2014 (<http://www.ipieca.org/resources/good-practice/oil-spill-training/>)

- IPIECA/IOPG Incident Management System for the Oil and Gas Industry – Good Practice Guide Series 2016 (<http://www.ipieca.org/resources/good-practice/incident-management-system-ims/>)
- ITOPF. TIP 10 – Leadership, Command & Management of Marine Oil Spills, 2012 (www.itopf.com/knowledge-resources/documents-guides/document/tip-10-leadership-command-management-of-oil-spills/)
- ITOPF. TIP 16 – *Contingency Planning for Marine Oil Spills*, 2011 (www.itopf.com/fileadmin/data/Documents/TIPS%20TAPS/TIP16ContingencyPlanningforMarineOilSpills.pdf)

EXERCISE 3.4: ROLES AND RESPONSIBILITIES

Objective:

The objective of this exercise is for participants to consolidate the lessons from the module by way of team and round-table discussions on the roles and responsibilities that apply in the host country or region.

At the end of this exercise, participants will understand:

- the roles and responsibilities as they apply in your country or region.

LESSON 3.13: INCIDENT MANAGEMENT SYSTEMS (IMS)

Objective:

The objective of this lesson is to ensure that participants understand the importance of incident management systems and the benefits of using a predetermined management structure where functions and roles are well defined.

At the end of this lesson, participants will understand:

- the application of incident management systems;
- the key emergency functions that are command, planning, operations, logistics and finance;
- the importance of defining roles and responsibilities; and
- the importance of developing an incident action plan.

Lesson summary:

Oil spills are complex incidents that require the contribution of multiple organizations and resources. Managers have the important role of ensuring that human and material resources are used in a coordinated and integrated fashion. If this is not achieved, it will be very difficult to use these resources efficiently in order to reduce potential damages from the spilled oil. An Incident Management System (IMS) is essential to ensure all critical response functions are identified and completed, response actions are coordinated and controlled and that an incident action plan is prepared to identify response strategies and necessary resources. Without an IMS, it is very likely that priorities will not be addressed and resources will be misused. An IMS enables managers to integrate all key emergency response functions such as command, planning, operations, logistic and finance

into a management structure. This structure must be flexible and adaptable to the size and severity of the incident.

The tasks for each function are as follows:

- **Command:** The command function is responsible for the overall management of an incident and sets the objectives and priorities of the response. It can also be responsible for public affairs, media relations, overall safety and inter-agency liaisons. Depending on national regulations, the command function will be performed by an individual or a group from various agencies.
- **Planning:** The planning function is responsible for information management and the development of the incident action plan. Planning will manage information such as oil type, trajectory modelling, aerial observation and weather. It will also be responsible for all environmental issues such as sensitive resources and waste. One of the key roles of the planning function is to identify and recommend the appropriate response options.
- **Operations:** The operations function is responsible for the implementation, management and coordination of all resources deployed in the field to resolve the incident. Typically, operations will be organized into divisions according to geography or the type of operation being conducted, e.g. marine, shoreline, aerial, wildlife, or health and safety.
- **Logistics:** The logistics function supports the operations by providing and maintaining all resources and services necessary for the response. Typically, logistics will provide communication, equipment, personnel, transport and fuel, lodging, food and water, toilets, etc. The logistics function works closely with the planning function, as they will need to supply the required resources for the implementation of response strategies identified by planning.
- **Finance:** The finance function is responsible for all financial and administrative aspects of the response. This includes the provision of accounting, monitoring incurred costs and making payments to workers and suppliers. Finance also plays a key role in collecting information to prepare claims for compensation to the insurers or to the International Oil Pollution Compensation Funds (IOPC Funds).

One of the main objectives of an incident management system is to bring together resources in preparation for an incident action plan. This plan is necessary to provide clear instructions to response personnel and to set response priorities. It will essentially describe the strategies and the tactics to be employed during a specific response. It will also list the resources necessary to implement these strategies and to meet the response objectives. Typically, the incident action plan will cover a specific operational period as decided by the management team. This will give responders a clear picture of what the response should aim to achieve during this period. The incident action plan must be updated frequently as the situation evolves and conditions are changing.

Points to remember:

It is very difficult to manage an oil spill without an IMS. The system will ensure that all response functions are carried out and provide a framework for integration and coordination of resources. It also facilitates decision-making by providing clear role and responsibilities. The system should be flexible and adaptable to your own circumstances.

Further reading:

- IMO. *Guidance Document on the Implementation of an Incident Management of an Incident Management System (IMS)*, 2012 Edition, IMO, London, 2012 (**Approved by IMO**)

- CEDRE. *Local Authorities' Guide – What to do in the Event of a Spill*, 2012 (For an extract please visit: wwz.cedre.fr/en/content/download/1769/131926/file/extract-local-authorities.pdf please send an email to documentation@cedre.fr to request full version)
- IPIECA/IOGP. Oil Spill Exercises - Good Practice Guide Series, 2014 (<http://www.ipieca.org/resources/good-practice/oil-spill-exercises/>)
- IPIECA/IOGP. Oil Spill Training – Good Practice Guide Series, 2014 (<http://www.ipieca.org/resources/good-practice/oil-spill-training/>)
- IPIECA/IOGP Incident Management System for the Oil and Gas Industry – Good Practice Guide Series 2016 (<http://www.ipieca.org/resources/good-practice/incident-management-system-ims/>)
- IPIECA/IOGP. Oil Spill Responder Health & Safety – Good Practice Guide Series, 2013 (<http://www.ipieca.org/resources/good-practice/oil-spill-responder-health-safety/>)
- IPIECA/IOGP. Mutual Aid Indemnification and Liability, 2016 (<http://www.ipieca.org/resources/awareness-briefing/mutual-aid-indemnification-and-liability-including-a-template-emergency-personnel-secondment-agreement/>)
- ITOPF. TIP 10 Leadership, Command & Management of Marine Oil Spills, 2012 (www.itopf.com/knowledge-resources/documents-guides/document/tip-10-leadership-command-management-of-oil-spills/)

LESSON 3.14: TERMINATION OF RESPONSE

Objective:

The objective of this lesson is to ensure that participants understand the difficulties and challenges associated with termination of response. Participants will learn about the definition and selection of termination criteria, as well as post-spill monitoring studies.

At the end of this lesson, participants will:

- understand the difficulties associated with termination of response;
- understand the tasks that must be completed at the end of a spill;
- be able to define termination criteria; and
- understand the steps involved in the development of post-spill studies.

Lesson summary:

Termination of response is often a complicated issue for response managers. At the beginning of an incident, oil is plentiful and clean-up objectives are evident for all stakeholders. As the amount of oil to recover diminishes and because of competing interests between technical, political and economic issues, it becomes very difficult to reach an understanding to terminate operations either at sea or on the shore. For example, managers will have to decide when response vessels should be demobilized or when to stop the clean-up on an amenity beach. To avoid complications, it is very important to establish clear response objectives during the initial stages of a spill. These objectives must be agreed between various stakeholders such as government, landowners and ship owners. It must be evident to all that once these objectives are reached, response (but not restoration) will be terminated. To identify these objectives and to establish termination end-points, it is important to consider various factors in order to agree on "how clean is clean?" Each incident will require its own termination

criteria. These must be established by considering the oil type, the effectiveness of response measures, environmental benefits of pursuing clean-up, social and economic factors and public and media perception. However, termination criteria should be based on technical evaluation of the situation in order to meet the overall response objective of minimizing environmental, social and economic damages. In all cases, clean-up efforts should be stopped when response measures are no longer efficient, when efforts and costs are disproportionate to the benefits of clean-up and when continued clean-up is likely to cause more damage. Termination criteria must be easy to understand and verify. As an example, criteria for an amenity beach could state that clean-up will be terminated when oil is no longer visible or when oil will not rub off on human skin.

Once a response is terminated, there are a number of operational and administrative tasks to be completed. Operational tasks include removing all equipment from the field, cleaning up equipment, conducting repairs and maintenance and ensuring that equipment stockpiles are replenished in order to be ready for the next spill. Managers will have to ensure that administrative tasks are also taken care of. These tasks will involve demobilizing equipment and personnel, finalizing payments, compiling costs, submitting compensation claims, conducting debriefing sessions, preparing a final incident report and following up on any post-spill monitoring studies.

Post-spill studies are generally conducted to determine the nature and extent of damages or to assess and monitor the recovery process. These studies must try to answer very specific questions and should not be too generic in nature. Ideally, post-spill monitoring studies should be conducted in collaboration with various stakeholders rather than having each stakeholder conducting its own study. This will minimize resources and costs of these studies and facilitate the acceptance of results. The following steps should be followed when designing a post-spill study:

1. Determine monitoring objectives
2. Determine geographical extent
3. Determine study parameters
4. Elaborate sampling plan
5. Determine study timeframe
6. Decide on interpretation of results
 - a. Comparison with pre-spill data
 - b. Comparison with non-contaminated reference sites
 - c. Changes over time
7. Carry out study and write report

The results from these studies can then be used to identify proper restoration measures when needed. Restoration measures should aim at accelerating recovery from environmental damage. Various measures can be implemented to that objective. They can include activities such as replanting, predator control or any other measures with a likelihood of success.

Points to remember:

- Termination of response is often a contentious issue
- Clear response objectives and end-point criteria must be established in a collaborative manner at the beginning of a spill;
- Operational and administrative tasks are needed to close a spill
- A collaborative approach should be adopted for the design of post-monitoring studies.

Further reading:

- IMO. *Contingency Planning, Section II, Manual on Oil Pollution*, 2018 Edition, IMO, London, 2018 (**Approved by IMO**)

Exercise 3.5: Incident Management

Objective:

The objective of this exercise is to consolidate the lessons from the module and enable participants to devise an Incident Management System (IMS) appropriate to the needs identified. Participants will discuss and identify an appropriate incident management structure for their organization/country/region and identify agencies and stakeholders that should be included in the IMS.

At the end of this exercise, participants will have:

- produced a draft IMS for your organization/country/region; and
- identified the roles of the various agencies and stakeholders involved with the IMS.



MODULE 3.4: COMMUNICATION ISSUES

MODULE OBJECTIVE

The overall objective of this module is to enable participants to understand the various communications requirements during oil spill response activities. This includes differing communications and information requirements, as well as the need for an external communications plan, an internal communications plan and an effective public relations and media response plan.

This module is composed of three lessons and one exercise:

- L.3.15: Managing information
- L.3.16: Internal communication requirements
- L.3.17: External communication requirements
- Ex.3.6: Communications Exercise

The objectives for each lesson are described below.

LESSON 3.15: MANAGING INFORMATION

Objective:

The objective of this lesson is to ensure that participants understand the need for a communications plan to gather and disseminate information during an incident, as well as the differing communications and information requirements during incident response and how best to address them.

At the end of this lesson, participants will:

- understand the challenges an oil spill presents in terms of managing information;
- understand the need for a communications plan to gather and disseminate information during an incident;
- understand the differing communications and information requirements during incident response; and
- have considered how best to address these requirements.

Lesson summary:

The responses to many incidents over recent decades have shown that an effective response does not necessarily depend on large amounts of specialist equipment. However, it does require an appropriate organizational infrastructure which is clearly defined and understood and leadership with well managed resources and information.

Often, the real crisis is not in what actually has happened but what people and the media believe has happened. This perception versus reality is one of the major challenges in trying to convey your message.

Oil spills generate bad publicity both for governments and industry. These negative impressions can be redressed with good media communications. Senior managers and administrators therefore have a responsibility to plan to address this challenge.

Information can be used to warn people threatened by immediate danger, advise the community on how to act properly to avoid the danger or hazard, inform and advise on the response operation and create a solid foundation for people's faith in the response. This requires a communications plan. However, the information in the plan must be open and accurate, simple and easily accessible, clear and concise, and given swiftly and continuously.

However, this also poses a number of challenges. This is commonly referred to as the "Inequality of an emergency event" in which circumstances do not favour the authority dealing with the event and the credibility of the media can be higher than that of the responsible authority. In order to counter this "inequality" your approach must be credible, contain clear messages, be giving the correct information, and be able to capture the attention and see the crisis from the perspective of the recipient.

The management of information is therefore critical. Information movement can be considered in two dimensions: vertical (internal – or the flow of information up and down the command structure of the incident) and horizontal (external – or the flow of information out to media and public and the reaction/feedback from the media and public). This will require two separate plans, an internal communications plan for the response teams, response community, senior administrators/Ministers and regional and international contacts and an external (media relations) plan to target the media and the public.

Points to remember:

Communications, both internal and external, are common challenges during an oil spill response but are vital for an effective response. In considering these challenges and understanding the need for effective communications planning, many of the issues can be addressed before the incident occurs.

Further reading:

- IMO. *Contingency Planning, Section II, Manual on Oil Pollution*, 2018 Edition, IMO, London, 2018 (**Approved by IMO**)
- ITOPF. *TIP 10 – Leadership, Command & Management of Marine Oil Spills*, 2012 (www.itopf.com/knowledge-resources/documents-guides/document/tip-10-leadership-command-management-of-oil-spills/)

LESSON 3.16: INTERNAL COMMUNICATION REQUIREMENTS

Objective:

The objective of this lesson is to ensure that participants understand the need for an internal communications plan to gather and disseminate information during an incident response.

At the end of this lesson, participants will:

- understand the need for an internal communications plan;
- understand the requirement for a vertical flow of information through the incident response;
- understand the different types of communications; and
- recognize the need for pre-prepared proforma documents.

Lesson summary:

Lesson 3.15 (Managing Information) discussed the need to have a communications plan that handles the vertical or internal communications and a media relations plan that handles the horizontal or external communications.

Challenges to the vertical flow of information include capturing, analysing and reporting the information in a timely manner. This includes aerial surveillance (fixed wing, rotary, satellite, unmanned), offshore units (response vessels, other marine traffic) and onshore units (response sites). There are a variety of communication channels that can be utilized for this.

Further challenges include managing the communication between the numerous organizations involved, between which there will be a lack of familiarity and teamwork, differing reporting formats and mediums, and differing terminology. They will be found scattered over numerous response locations, often with separate response management locations, overloaded signal carriers, crowded airwaves and poor or no reception.

Consideration must be given to how communications are handled and stored. This is vital both to ensure we have reliable information but also that we have captured the information as part of our record keeping. We need to capture and store this data and so need to consider a system capable of capturing, storing and analysing the data. It also needs to have the ability to sift through the information, remove salient facts and re-transmit it to the interested parties. This needs to be as near to “real-time” as possible, as out of date information has limited use.

Consideration must also be given to how communications are managed. This can be achieved by preparing a communications plan, harnessing technology, thinking ahead, studying and learning from others, having sufficient resources, exercising a plan, assessing the lessons learned and updating the plan to incorporate any such lessons. To assist us we can consider having a suite of pre-prepared documents. These can include incident report forms in ICS, pre-prepared senior government and media information statements and fact sheets on response options and capabilities.

Points to remember:

Communications are a vital part of an incident response, especially where numerous organizations are brought together, some of which are not used to working with each other, and use differing reporting formats, mediums and terminology. Advance planning can address these challenges through a communications plan and the preparation of proforma documents. In considering these challenges and understanding the need for effective communications planning, many of the issues can be addressed before an incident occurs.

Further reading:

- IMO. *Contingency Planning, Section II, Manual on Oil Pollution*, 2018 Edition, IMO, London, 2018 (**Approved by IMO**)
- ITOPF. *TIP 10 – Leadership, Command & Management of Marine Oil Spills*, 2012 (www.itopf.com/knowledge-resources/documents-guides/document/tip-10-leadership-command-management-of-oil-spills/)

LESSON 3.17: EXTERNAL COMMUNICATION REQUIREMENTS

Objective:

The objective of this lesson is to ensure that participants understand the need for an effective public relations and media response plan.

At the end of this lesson, participants will understand:

- the various types of media and their requirements;
- the need for a Media Relations Plan;
- some of the challenges in managing the media; and
- the key elements in preparing for media interviews and news conferences.

Lesson summary:

There are different types of media that may have to be dealt with during the response to an incident, including newspapers, radio and television. It is also important to remember that these days much of what appears in the media will also appear on the internet, probably within a few minutes of actual events. We live in a global village and the media serves our appetites through 24-hour news programmes and forums.

Newspapers conduct in-depth reporting. The information they require is generally much more detailed than that required for radio and television, and they may request pictures and press releases as well as background information concerning the incident. They are required to meet deadlines; the deadline for the morning papers is the previous evening and the deadline for the afternoon papers is mid-morning.

With television the message is very visual. Information spots are kept brief and interviews can either be in-depth in the studio or in the field. Radio also operates to very tight deadlines, conducting hourly or half hourly reports and on the spot interviews. Radio news is frequently updated and reports are generally very brief. Emphasis is given to what is happening right now and only the most important facts are featured. It is also important to remember that these days much of what appears in the media will also appear on the internet and social media, often within minutes of release or the events happening. The growth in popularity of digital cameras and camera phones makes the general public a rich source of media footage, often offering the first pictures from the scene.

The media can be a very effective way of ensuring that the public is informed about an incident and its effects. Therefore, it is important that the media is carefully handled, with the authorities providing media outlets with the information they need to do their jobs and tell the story.

Many factors might influence the size of the media contingent. On some occasions the media will only be interested in the identity of the polluter, however if there is a threat to the local population, wildlife, coastline, etc. this will attract more interest. Briefings should be held once or twice a day and updates posted as required. Be conscious of media deadlines and make sure that the response authorities and their technical experts are available. Media releases should be provided regularly during the incident response, and can be supplemented by background information, fact sheets and media kits. This is especially important when trying to explain technical issues with which the public are not conversant. Such information can be prepared before an incident as part of your preparedness and planning.

Media facilities should be provided, where possible, including the establishment of a media centre with backgrounds, picture charts and updates, telephones, fax machines, outlets for laptops and a workspace. Parking facilities for specialized communication vehicles should also be considered. It can also be beneficial to provide media tours, escorting members of the media through response areas, avoiding unrestricted access to response sites and personnel. Ensure that they are given adequate briefings to ensure that all safety precautions and standards are observed.

There are seven key elements to a successful interview. These are:

- Preparation
- Positioning statement
- Negotiate the interview
- Use of quotes and sound bites
- On the record and off the record
- Handling difficult questions
- Look and act the part

Remember that journalists often work to the 4WH programme (who, what, when, where and how).

Points to remember:

The ease and speed with which information can be circulated means that the wider public may become aware of the incident and incident developments before the response organization. This places immense pressure on the response team. A well organized and managed response instils confidence among the public, media and politicians. This means that an effective external communication strategy must be implemented. The media plays an important role within an incident and a key part of managing its activities is understanding its needs.

Further reading:

- IMO. *Contingency Planning, Section II, Manual on Oil Pollution*, 2018 Edition, IMO, London, 2018 (**Approved by IMO**)
- ITOPF. *TIP 10 – Leadership, Command & Management of Marine Oil Spills*, 2012 (www.itopf.com/knowledge-resources/documents-guides/document/tip-10-leadership-command-management-of-oil-spills/)

EXERCISE 3.6: COMMUNICATIONS EXERCISE

Objective:

The objective of this exercise is to consolidate the lessons from the module by way of group and round-table discussions on communications and give you practice in drafting different types of information reports for a range of scenarios.

At the end of this exercise, participants will understand the content of a typical:

- initial notification report to senior government officials;
- initial statement to the media;
- follow-up notification report to senior government officials; and
- follow-up statement to the media.

MODULE 3.5: LIABILITY AND COMPENSATION

MODULE OBJECTIVE

The overall objective of this module is to ensure that participants understand the international liability and compensation mechanisms for damages resulting from an oil spill from a ship. This knowledge will be very important when overseeing the claims preparation process and ensuring the efficient processing of claims.

This module is composed of two lessons and one exercise:

- L.3.18: The international compensation regime
- L.3.19: Admissible claims
- Ex.3.6: Claim and Compensation Preparation

The objectives for each lesson are described below.

LESSON 3.18: THE INTERNATIONAL COMPENSATION REGIME

Objective:

The objective of this lesson is to ensure that participants understand the international regime for liability and compensation for damages resulting from an oil spill from a ship. Participants must be aware of the international liability and compensation regime in order to ensure that victims of an oil spill in their country receive the applicable compensation. Participants may have to oversee the claims preparation process and must have knowledge of the international conventions for compensation, the advantages of ratification and the amounts available.

At the end of this lesson, participants will understand:

- the provisions of the Bunkers Convention, Civil Liability Convention 1992, Fund Convention 1992, the Supplementary Fund and the HNS Convention;
- the types of damages covered by these Conventions; and
- the amounts available for compensation.

Lesson summary:

Following the Torrey Canyon incident in 1967, the international community recognized the need to develop an international regime to facilitate compensation for victims of an oil spill. Before the creation of this international regime, claimants had to address national courts in order to receive compensation. The process was very complicated and prevented many small claimants from receiving compensation. The international regime provides a uniform treatment of claims wherever claimants are in the world and introduced the concept of strict liability. This concept means that it is not necessary for claimants to prove fault from the shipowner to get compensation. In return, shipowners have the right to limit their liability according to vessel size. The international regime aims at providing compensation to victims of an oil spill without having to resort to national courts, which significantly improves the speed at which compensation can be received.

The main international conventions for liability and compensation for spills of persistent oil carried as cargo are the Civil Liability Convention of 1992 (CLC 92), the 1992 Fund Convention and the Supplementary Fund of 2003, providing a three-tier system for compensation. Spills of bunker oil, including lubricating oil, used for the propulsion of any ship are covered by the 2001 Bunkers

Convention. These four instruments provide compensation for pollution damage within the territorial seas or the Exclusive Economic Zone (EEZ) of a Member State.

CLC 92 is the first tier of the compensation system for spills of persistent oil carried as cargo in tankers. It introduces the concept of strict liability of registered shipowners and the requirement for compulsory insurance for pollution damage. Liability of the shipowner is limited according to the vessel size and the shipowner can be exempted of liability in case of very specific circumstances, such as war or natural disaster. Under this Convention, a maximum amount of 89 million Special Drawing Rights (SDR) is available for compensation. This compensation is provided usually by the insurer of the ship.

The 1992 Fund Convention is the second tier of the compensation system. This international Convention led to the creation of the International Oil Pollution and Compensation Fund (1992 Fund) to administer this Convention and pay claims. The 1992 Fund covers the same types of damage as the CLC 92. However, it provides compensation when the amount of compensation available under the CLC 92 is inadequate. Under the Fund 92, the amount of compensation available is 203 million SDR, including the amount already provided by the CLC 92. Contributions to the Fund 92 are coming from oil receivers located in Member States.

The Supplementary Fund 2003 is the third tier of the compensation system. It was created following the incidents of the Erika and Prestige, where claims submitted exceeded the limit of the 1992 Fund. The Supplementary Fund functions similarly to the 1992 Fund. It provides additional compensation up to a maximum of 750 million SDR, including amounts already paid under the CLC 92 and the 1992 Fund.

It is important to note that contributions to the 1992 Fund and the Supplementary Fund come from oil receivers located in Member States that are Parties to these funds and not from national governments. Facilities receiving more than 150,000 tons of oil will pay a levy to the IOPC Fund, based on the compensation amounts necessary to pay out once claims have been evaluated.

The Convention on Liability for Bunker Oil Pollution Damages 2001 (Bunker Convention) provides compensation for pollution damage on a similarly strict liability basis, with compensation paid usually by the insurer of the ship. The amount available for compensation is lower than the CLC 92, the 1992 Fund and the Supplementary Fund, but covers a wider range of ships. The limit of liability of a shipowner under the Bunkers Convention is set out in the Convention on Limitation of Liability to Maritime Claims (LLMC 96) or in other applicable regimes.

The International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea (HNS Convention) was adopted by the IMO in 1996 and amended by a Protocol in 2010. The HNS Convention, once it enters into force, will provide compensation for damage occurring as a result of the maritime transport of hazardous and noxious substances (HNS) based on a well-tested system of the international compensation regime for oil spills from tankers. The amount of compensation available under the HNS Convention will be maximum 250 million SDR, including the amount paid by the shipowner and the insurer. The limit of liability for the shipowner will depend on the forms (bulk or packaged) of carrying HNS on board the ship and on the gross tonnage of the ship.

The main types of claims receivable under these conventions include claims for property damages, clean-up costs, economic losses, mainly from the fisheries and tourism sectors, and environmental damages.

Points to remember:

- An international compensation regime for damages resulting from oil spills is available.

- This regime aims to provide adequate, prompt and effective compensation to victims of an oil spill.
- CLC 92, the 1992 Fund and the Supplementary Fund provide compensation from spills of persistent oil from a tanker in territorial waters or EEZ of a Member State.
- The Bunkers Convention provides compensation for spills of oil used for propulsion of all types of ship.
- The HNS Convention will provide compensation for damage occurring as a result of the maritime transport of HNS, once it enters into force.
- Strict liability and limitation of liability are important aspects of these conventions.
- Claims for property damage, clean-up costs, economic losses and environmental damage are admissible.
- Countries must ratify these conventions to have access to compensation.

Further reading:

- IMO. *Contingency Planning, Section II, Manual on Oil Pollution*, 2018 Edition, IMO, London, 2018 (**Approved by IMO**);
- ITOPF. *TIP 15 – Preparation and Submission of Claims from Oil Pollution*, 2012 (www.itopf.com/fileadmin/data/Documents/TIPS%20TAPS/TIP15PreparationandSubmissionofClaimsfromOilPollution.pdf); and
- IOPC Funds. *Claims Information Pack* (<http://www.iopc.org/publications/>).

LESSON 3.19: ADMISSIBLE CLAIMS

Objective:

The objective of this lesson is for participants to learn what can be claimed and compensated for following an oil spill. This lesson will also discuss the issue of reasonableness, which is fundamental for the admissibility of claims.

At the end of this lesson, participants will understand:

- the concept of reasonableness; and
- what type of claims can be submitted for compensation.

Lesson summary:

Various types of claim are admissible under the international compensation system. Generally, compensation can be received for preventive measures, pollution damage, economic losses and environmental damage.

Compensation for preventive measures typically includes costs related to the response and clean-up of spilled oil. For this type of claim, reasonable costs for equipment and personnel can be compensated. Actions taken to combat oil at sea such as recovery and the application of dispersants, to protect or to clean shorelines and to collect, store or dispose of waste are generally admissible under this category. However, actions taken must be reasonable. Reasonable means that the decision to implement a response strategy and to mobilize resources must be based on a sound technical appraisal of the situation at the time this decision is taken and that the response strategy has a possibility to succeed. Actions taken solely because of political pressure or for public relations purposes are unlikely to be admissible since they would not follow the concept of reasonableness.

Pollution damage is the result of physical contamination of an object or property by oil. Typical examples include contamination of beachfront property, oiling of fishing boats or pleasure crafts, oiling of fishing gear such as nets or fish farms and damage caused during clean-up such as to roads or land. Compensation can be received for costs to clean, repair or replace damaged items.

Economic losses can affect multiple businesses during an oil spill. However, the fisheries and tourism sectors are usually the most affected. Economic losses can be divided in two categories: consequential loss or pure economic loss. Consequential loss is a loss of revenue by the owners or users of property contaminated as a result of a spill, e.g. a fisherman who cannot go out fishing because his or her fishing net has been contaminated by oil. Pure economic loss corresponds to loss of earnings sustained by persons whose property has not been polluted, e.g. a fisherman who cannot fish because the area where he or she usually operates is closed because of the presence of oil. For the fisheries sector, the activities of fishermen, fish farms and fish processors can suffer loss of revenue because of an oil spill. For the tourism sector, hotels, camping sites, restaurants, bars and tourist attractions are typical enterprises that can lose revenue during an oil spill.

Admissible activities for compensation pertaining to environmental damage include costs to undertake studies to evaluate oil spill impacts and measures taken to restore the environment following a spill. However, the use of computer models to evaluate damages and compensation for damages to the environment are not admissible under the international compensation system. Activities such as sampling, laboratory analysis and preparation of reports are activities where costs can be claimed. However, it is very important for these studies that national authorities work in close collaboration with experts from the insurer or from the IOPC Fund to jointly determine the objectives of the study and the various physical or chemical parameters to be measured.

For all types of claim, it is the responsibility of the claimant to provide the necessary documentation to prove their loss. This is one of the reasons why it is extremely important that all actions and decisions undertaken during the response to a spill are well documented. Claims for preventive measures must provide a narrative and a description of the situation at the time specific equipment or personnel were mobilized. Invoices must also be provided. Typically, a table showing daily rates for equipment and personnel is used to compile and show costs. Claims for pollution damage will also have to provide documentation describing the extent of the damage, provide invoices and photos. For these claims, it is very important to consider wear and tear. Claims for economic losses need to be based on financial statements from previous years and must show a decrease of revenue due to the spill. Claimant must show a link of causation based on the presence of oil in a geographical area. It is also important for these claimants to work in close collaboration with ship insurers and the IOPC Fund as they are likely to use experts to evaluate claims. Close collaboration will avoid claims being rejected because of incomplete documentation. For all claims, claimants must follow the guidelines provided by the IOPC Fund Claims Manual.

Points to remember:

- Compensation can be received for costs of preventive measures, pollution damages, economic losses and environmental damages;
- Preventive measures include costs for clean-up and response;
- Pollution damages refer to damage caused by oil to property or items such as boats;
- Economic losses can affect multiple businesses but typically fisheries and tourism are the main sectors affected;
- Loss of revenues as a result of a spill can be compensated;
- It is extremely important that claims be well documented and that claimants follow guidelines from the IOPC Fund Claims Manual.

Further reading:

- IMO. *Contingency Planning, Section II, Manual on Oil Pollution*, 2018 Edition, IMO, London, 2018 (**Approved by IMO**)
- ITOPF. *TIP 15 – Preparation and Submission of Claims from Oil Pollution*, 2012 (www.itopf.com/fileadmin/data/Documents/TIPS%20TAPS/TIP15PreparationandSubmissionofClaimsfromOilPollution.pdf)
- IOPC Funds. *Claims Information Pack* (<http://www.iopc.org/publications/>)

EXERCISE 3.7: CLAIMS AND COMPENSATION PREPARATION

Objective:

The objective of this exercise is for participants to consolidate the lessons from modules 3.18 and 3.19 on the International regime for claims and compensation and admissible claims. Claims and compensation is an important issue during an oil spill response. It is the responsibility of managers to make sure that claims are prepared following the rules and requirements of the international claims and compensation regime. During this exercise, participants will have to identify under which legal instrument compensation can be received, if claims are reasonable and start the claims preparation process.

At the end of this exercise, participants will:

- recognize under which legal instrument compensation can be received;
- be able to verify the reasonableness of claims; and
- understand the claims preparation process.

MODULE 3.6: REVIEW AND ACTION PLAN

MODULE OBJECTIVE

The objective of this module is to review the lessons learned from the course and by comparison to the results of exercise 3.1 Preparedness Review consider what improvements may be applied to the current level of preparedness. Once these improvements have been identified, an Action Plan should be created to assist in the implementation of the identified improvements.

This module is composed of three exercises:

- Ex.3.8: Strategy Exercise
- Ex 3.9.1: Review Exercise
- Ex 3.9.2: Creation of an Action Plan

EXERCISE 3.8: STRATEGY EXERCISE

Objective:

The objective of this exercise is to consolidate all the lessons from this training course by asking participants to make choices on the strategic directions that may be taken during a presented scenario. This exercise does not require participants to organize or manage the response, that will be covered in Level 2 and is for the OSC and their team to plan and manage, but to identify the strategic directions senior government or executives will need to consider.

At the end of this exercise, participants will be able to:

- identify the appropriate strategic directions that must be chosen.

EXERCISE 3.9.1: REVIEW

Objective:

The objective of this exercise is to review the lessons learned from the course and by comparison to the results of exercise 3.1 Preparedness Review, consider what improvements may be applied to the current level of preparedness. Once these improvements have been identified, an Action Plan can be created to assist in the implementation of the identified improvements.

At the end of this exercise, participants will have:

- reviewed their current state of preparedness;
- considered what improvements may be applied; and
- identified a series of recommendations to be applied to their current level of preparedness.

EXERCISE 3.9.2: DEVELOPMENT OF AN ACTION PLAN

Objective:

The objective of this exercise is to review the lessons learned from the course and by comparison to the results of exercise 3.1 Preparedness Review, consider what improvements may be applied to the current level of preparedness. Exercise 3.9.1 identified the areas required for reassessment; now participants need to create an action plan to assist in the implementation of the identified improvements.

At the end of this exercise, participants will have:

- created an Action Plan to assist in the review of the identified improvements.

