



REPUBLIC OF CYPRUS

**MINISTRY OF AGRICULTURE, RURAL DEVELOPMENT AND
ENVIRONMENT**

DEPARTMENT OF FISHERIES AND MARINE RESEARCH

**“THE NATIONAL CONTINGENCY PLAN FOR OIL
POLLUTION COMBATING”**

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List of Acronyms

AOSC	Air On-Scene Commander
API	American Petroleum Institute
ATAC	Advisory and Technical Assistance Committee
CDD	Civil Defence Department
CECIS	Common Emergency Communication and Information System
Combat Agency	Government Agency having the operational responsibility to respond to an oil spill in the marine environment in accordance with this Plan
CPA	Cyprus Ports Authority
DA	District Administrations of the Republic of Cyprus
DCA	Department of Civil Aviation
DE	Department of Energy, Ministry of Commerce, Industry and Tourism (MCIT)
DENV	Department of Environment, Ministry of Agriculture, Rural Development and Environment (MARDE)
DF	Department of Forestry
DFMR	Department of Fisheries and Marine Research, Ministry of Agriculture, Rural Development and Environment
DG ECHO	European Commission – Directorate General for Humanitarian Aid and Civil Protection
DLI	Department for Labour Inspection
DMS	Deputy Ministry of Shipping, Ministry of Transport Communications and Works (MTCW)
DO	Diesel Oil
DOFMR	District Offices of Fisheries and Marine Research
DWT	Deadweight Tonnage

EAC	Electricity Authority of Cyprus
EEZ	Exclusive Economic Zone of the Republic of Cyprus
ERCC	Emergency Response Coordination Centre (DG ECHO)
EU	European Union
EMSA	European Maritime Safety Agency
FCP	Facility Contingency Plan. Approved contingency plan of the on-shore oil handling installation or floating off-shore installation.
GCLS	General Chemical Laboratory of State, Department of Environment, Ministry of Agriculture, Rural Development and Environment
HFO	Heavy Fuel Oil
IOPC	International Oil Pollution Compensation Fund
ITOPF	International Tanker Owners Pollution Federation
JRCC	Joint Rescue Coordination Centre, Larnaca
LFO	Light Fuel Oil
MARDE	Ministry of Agriculture, Rural Development and Environment
MAPOL	Marine and Port Police
MARPOL	International Convention for the Prevention of Pollution from Ships
MCIT	Ministry of Commerce, Industry and Tourism
MCW	Ministry of Communications and Works
MEDESS-MS	Mediterranean Decision Support Tool for Maritime Safety
MFA	Ministry of Foreign Affairs
MFO	Medium Fuel Oil
MJPO	Ministry of Justice and Public Order
MOH	Ministry of Health
MS	Meteorology Service, Ministry of Agriculture, Rural Development and Environment

NCA	National Combat Agency
NCP	The National Contingency Plan for Oil Pollution Combating
NESAC	National Environmental and Scientific Advisory Committee
NG	National Guard
NOSC	National On-Scene Commander
NMPRCC	National Marine Pollution Response Coordination Centre
OC-UCY	Oceanography Centre – University of Cyprus
OPRC	Oil Pollution Preparedness, Response and Co-operation Convention (1990)
OPRT	Oil Pollution Response Team
OSC	On Scene Commander
OSPV	Open Sea Patrol Vessel
PAOU	Police Air Operations Unit
PCP	Port Contingency Plan. Approved contingency plan of the port administration or port operation authority.
PPE	Personal Protective Equipment
PTW	Permit to Work
REMPEC	Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea
SOSC	Supreme on Scene Commander
STS	Ship-to-Ship Transfer
UNCLOS	United Nations Convention on the Law of the Sea
VTMIS	Vessel Traffic Monitoring and Information Centre, Limassol
VS	Veterinary Services, Ministry of Agriculture, Rural Development and Environment

1 Introduction

The capsizing and sinking of the vessel “ZENOBIA” off the coast of Larnaca in June 1980 was the historical benchmark for the development of oil spill response capacity in Cyprus. In 1990, the “National Contingency Plan for Oil Pollution Combating” was developed. Following revisions of the Plan in 1995, 2001 and 2005, it became necessary to redraft it in order to reflect to a series of developments in recent years such as:

1. A new decision taken by the Council of Ministers in April 2011 related to assignment of duties between the various governmental entities in cases of oil pollution incidents;
2. The increasing tanker traffic in the maritime area of Cyprus;
3. The increasing oil and gas exploitation activities in Eastern Mediterranean;
4. The increase in the number of ship-to-ship transfers of heavy fuel oil (HFO) and other fuel products outside territorial waters in Cyprus EEZ and,
5. The placement of an EMSA oil recovery ship in Cyprus for combating pollution in the area, which became operational since August 2011/2012.

1.1 Background

The sea and the preservation of the marine environment is for the Republic of Cyprus of outmost importance. Marine oil spills have the potential to turn into catastrophic events, which may cause adverse consequences on humans, to the marine life and environment and to the country’s economy and tourism. The toxicity of oil will cause environmental damages that will need many years to recover.

Cyprus is an active member of the United Nations (UN) and the International Maritime Organization (IMO) and is signatory party to all important international instruments governing the protection of the marine life and environment, which includes the UN Convention on the Law of the Sea (UNCLOS) and International Convention on the Prevention of Pollution from Ships (MARPOL). As such, the protection of the marine environment against oil and other pollutants is an obligation of highest priority.

This plan, describes the measures the Republic of Cyprus has taken in order to prevent, to prepare and to respond to marine oil spills. The plan describes also the assignment of duties and responsibilities to all public services/agencies involved in the preparedness and response chain. It complements similar documents dealing with the responsibility of the Cypriot Government for saving life at sea and for the search and rescue, and is harmonized with international treaties related to the protection of marine environment to which the Republic of Cyprus is a party.

1.2 Risks

The Republic of Cyprus has approximately 640 km of coastline, which is exposed to potential pollution incidents arising as a result of routine maritime operations including bunker fuelling operations of ships, hydrocarbon loading or unloading operations, ship-to-ship transfer (STS) operations, other commercial operations, and maritime casualties.

Potential risks associated with the release of fuel oils into the environment are posed by incidents involving not only tankers, but also larger cargo, container, passenger and fishing vessels that may be carrying several thousands of tonnes of fuel. Marine oil pollution is mainly caused by ships and can be caused either accidentally or through illegal and deliberate discharges

Due to Cyprus' geographical position at the cross-border between Europe, Asia and Africa, Cyprus is also exposed to increase shipping and oil tanker traffic. Offshore oil and gas exploitation in the Eastern Mediterranean, but especially the ongoing developments within Cyprus EEZ, is also another potential threat Cyprus is faced with.

Furthermore, the traffic density of merchant vessels in the Mediterranean, which represents less than 1% of the total area covered by the world's oceans, is particularly high. It is estimated that 30% of the international sea-borne trade originates or is directed to Mediterranean ports or passes through the Mediterranean Sea and that some 20–25% of the world's sea-borne oil traffic transits through the Mediterranean¹. This consists of oil exported from the Middle East via the Suez Canal and the Sumed Pipeline, together with significant exports from Egypt, Libya and Algeria en route to Spain, France and Italy.

As the Cyprus economy depends very much on tourism and on shipping trade, it has a great interest of maintaining an adequate and efficient infrastructure for the combating of marine oil spills.

1.3 Objectives

The purpose of the plan is to facilitate a well organized, quick and effective response to marine oil spill incidents in such a way as to minimize any potential adverse effects on the marine environment.

Although it remains the responsibility of the polluter to arrange for the oil recovery and necessary clean-up operations, the country needs a national capacity to respond to emergencies which are beyond the capacity of the polluter.

This plan is primarily designed to successfully deal with marine oil spill incidents which are expected to occur in the Cyprus coastal waters and which can be successfully dealt with by own means of national resources and oil spill response equipment.

¹ Source: REMPEC

The plan contains further arrangements for calling out emergency support by third party oil spill service providers, from the European Union and from resources of other countries.

1.4 Scope of the Plan

This Plan outlines the arrangements of the Government for responding to marine oil spills in the marine environment. The Plan also complements the contingency arrangements of those sectors of the industry who operate coastal installations involving oil transfers. The available resource and equipment response capability of the Government can deal with oil spills involving a quantity of apx. 100 tonnes of oil. For any oil spill in excess of this capacity, arrangements are in place for calling out international assistance from the European Union, or from other third parties through REMPEC.

This Plan is limited in the combating of oil or oil like substances at sea and does not include any other pollutants such as chemical substances.

1.5 Coverage

The Plan covers all the coastal waters of Cyprus and territorial waters of the Republic of Cyprus. The Plan can be extended beyond the territorial waters in the Cyprus EEZ in case of pollution of the high seas with an imminent risk of extension of the pollution to the territorial waters of the Republic.

In cases of oil pollution from offshore activities within Cyprus EEZ, the primary responsibility for response, oil recovery and clean up lies with the Offshore Installation Operators, who according to section 2.8 of the present Plan, must have arrangements in place for dealing with any oil spill incident of the TIER 3 category.

1.6 Legislation

The legal basis for this plan is Article 4 of the 1976 *Convention for the Protection of the Mediterranean Sea Against Pollution* (“the Barcelona Convention”) requiring Contracting Parties to take all appropriate measures to prevent, abate and combat pollution of the Mediterranean Sea area and to protect and enhance the marine environment in that area. The Republic of Cyprus ratified the Barcelona Convention by virtue of the *Convention for the Protection of the Mediterranean Sea Against Pollution and its Related Protocols (Ratification) Laws of 1979 to 2007* (Ratification Law 51/1979 subsequently amended by Law 20(III)/2001 and Law 35(III)/2007).

Furthermore, Article 4 of the *2002 Protocol Concerning Cooperation in Preventing Pollution from Ships and, in cases of Emergency, Combating Pollution of the Mediterranean Sea* (“the Barcelona Emergency Protocol”, ratified by the Republic of Cyprus by virtue of Amendment Law 35(III)/2007) provides as follows:

“The Parties shall endeavour to maintain and promote, either individually or through bilateral or multilateral cooperation, contingency plans and other means of preventing and combating pollution incidents. These means shall include, in particular, equipment,

ships, aircraft and personnel prepared for operations in cases of emergency, the enactment, as appropriate, of relevant legislation, the development or strengthening of the capability to respond to a pollution incident and the designation of a national authority or authorities responsible for the implementation of this Protocol”.

Under Article 11 of the Barcelona Emergency Protocol, each Party to the Barcelona Convention “*shall require that authorities or operators in charge of sea ports and handling facilities under its jurisdiction as it deems appropriate have pollution emergency plans or similar arrangements that are coordinated with the national system established in accordance with Article 4 and approved in accordance with procedures established by the competent national authority”.*

Also, under Article 16.2 of the Barcelona Emergency **Offshore** Protocol, “*each Party shall require operators in charge of installations under its jurisdiction to have a contingency plan to combat accidental pollution, coordinated with the contingency plan of the Contracting Party established in accordance with the Protocol concerning Cooperation in Combating Pollution of the Mediterranean Sea by Oil and Other Harmful Substances in Cases of Emergency and approved in conformity with the procedures established by the competent authorities”.*

The Plan takes into account the existing Cyprus national legislation relating to responsibilities and duties of institutions mentioned in the Plan. A comprehensive list of all relevant national legislation is given in the table below.

Table 1: Cyprus National Legislation addressing marine pollution

Legal Instrument	Provision
UNCLOS – United Nations Convention on the Law of the Sea	Part XII: Protection and reservation of the marine environment (Art 192 – 237)
National Law: <i>The U.N. Convention on the Law of the Sea 1982 (Ratification) Law of 1988 (Law 203/88).</i>	Article 194: Measures to prevent, reduce and control pollution of the marine environment
Barcelona Convention – 1976 Convention for the Protection of The Mediterranean Sea Against Pollution. National Laws: <i>The Convention for the Protection of the Mediterranean Sea Against Pollution and its Related Protocols (Ratification) Laws of 1979 to 2007 (Ratification Law 51/1979 subsequently amended by Law 20(III)/2001 and Law 35(III)/2007 ratifying the related Protocols).</i>	Article 4.1: The Contracting Parties shall individually or jointly take all appropriate measures in accordance with the provisions of this Convention and those Protocols in force to which they are party to prevent, abate, combat and to the fullest possible extent eliminate pollution of the Mediterranean Sea Area.
2002 Protocol Concerning Cooperation in Preventing Pollution from Ships and, in	Article 4.1. The Parties shall endeavour to maintain and promote, either individually or

<p>cases of Emergency, Combating Pollution of the Mediterranean Sea (the “Emergency Protocol”).</p>	<p>through bilateral or multilateral cooperation, contingency plans and other means of preventing and combating pollution incidents. These means shall include, in particular, equipment, ships, aircraft and personnel prepared for operations in cases of emergency, the enactment, as appropriate, of relevant legislation, the development or strengthening of the capability to respond to a pollution incident and the designation of a national authority or authorities responsible for the implementation of this Protocol.</p> <p>Article 11. 4: Each Party shall require that authorities or operators in charge of sea ports and handling facilities under its jurisdiction as it deems appropriate have pollution emergency plans or similar arrangements that are coordinated with the national system established in accordance with Article 4 and approved in accordance with procedures established by the competent national authority.</p>
<p>1994 Protocol for the Protection of the Mediterranean Sea against Pollution Resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and its Subsoil (the “Offshore Protocol”).</p>	<p>Article 15 - Safety Measures</p> <p>Article 16 – emergency plans in place</p>
<p>MARPOL – International Convention for the Prevention of Pollution from Ships.</p> <p>National Laws: <i>The International Convention for the Prevention of Pollution of the Sea from Ships (Ratification) and for Matters Connected Therewith Laws of 1989 to 2005</i> (the “MARPOL Ratification Laws”, Ratification Law 57 /1989 as amended by Law 11(III)/1995, 11(III)/2001, 38(III)/2003, 46(III)/ 2004 and 36(III)/2005).</p>	<p>MARPOL Ratification Laws: section 10</p> <p>10- (1) During the loading and unloading of oil or during oil transfers, with the exception of those white volatile oil products (benzene, naphtha, fusions, fuel of jet- planes, kerosene and light DIESEL), effected at installations or ships, those in charge of such installations or ships have a duty to ensure that:</p> <p>(a) a boom of a type approved by the Competent Authority which will be deployed immediately in case of oil discharge, is available, ready for immediate use and to the required extent according to each case, so that the discharge be restricted within the said barrier;</p>

(b) a skimmer approved by the Competent Authority and in general any equipment for the collection of any discharge of oil, is available, and ready for immediate use. The capacity and quantity of the said equipment shall be proportionate to the quantity of the carried oil or oil derivatives; and

(c) a dispersant of an approved type is available for use, at the required quantity for each case, to combat any eventual discharge of oil or oil derivatives.

(2) The duties according to the previous subsection may be assigned by those responsible in law, with the approval of the Competent Authority, to a suitable entity or organization considered by the Competent Authority to be capable for a successful confrontation of the risks arising from the pollution as more specifically prescribed in Regulations.

(3) In case operations under subsection (1) effected in installations or ships, relate to an oil quantity up to one thousand tons, the Competent Authority is empowered to prescribe the measures needed in each case, for the protection of the marine environment, as more specifically prescribed in Regulations.

section 13

13. - (1) In case of pollution, or obvious and imminent risk of causing pollution, the shipowner, the operator of the ship or the master, the owner, the operator of the installation or reception facility or the person in charge of it, shall take all appropriate measures to prevent pollution and restrict its source and shall report immediately the fact to the Competent Authority and to the Department of Fisheries of the Ministry of Agriculture, Rural Development and Environment, giving information to the Competent Authority, in accordance with provisions more specifically prescribed in Regulations.

	<p>(2) The Competent Authority and the Department of Fisheries of the Ministry of Agriculture, Rural Development and Environment, as soon as they are informed of the fact, shall take, in accordance with their competency, all appropriate measures to avoid, restrict and eliminate pollution and shall inform to this respect the shipowner or the operator of the ship or the master or, in their absence, the agent or other competent person, and in the case of installations or reception facilities, the owner or the operator of the installation or reception facility or the person in charge of it.</p> <p>(3) The Competent Authority, in co-operation with the Department of Fisheries of the Ministry of Agriculture, Rural Development and Environment is empowered to assign its duties mentioned in the previous subsection to organizations or private enterprises that possess the necessary equipment and relevant experience in combating pollution incidents and to co-ordinate, supervise and control the operations carried out for this purpose.</p>
<p><i>The Hydrocarbons (Prospecting, Exploration and Exploitation) Law of 2007 (Law 4(I)/2007 Transposing Directive 94/22/EC, as amended by Law 126(I)/2013 and 29(I)/2014).</i></p>	<p>Law 4(I)/2007 as amended: section 11: “Environmental Impact Study”, <i>The Assessment of the Effects of Certain Projects on the Environment Law of 2005, Law 140(I)/2005.</i></p>
<p><i>The Hydrocarbons (Prospecting, Exploration and Exploitation) Regulations of 2007 (P.I. 51/2007, Transposing Directive 94/22/EC).</i></p>	<p>section 15 «Protection of the Environment”: paragraph (a) of section 15(6): “<i>Prior to the commencement of any drilling operations, the licensee prepares and submits to the Minister for evaluation and approval, a contingency plan for hydrocarbon leakage and fire. In such a case, the licensee applies immediately the relevant contingency plan</i>”.</p>
<p>Directive 2013/30/EU of the European Parliament and of the Council of 12 June 2013 on safety of offshore oil and gas operations and amending Directive 2004/35/EC (Member States’ transposition by 19 July 2015).</p>	<p>Recital 2 of Directive 2013/30/EU: “<i>The objective of this Directive is to reduce as far as possible the occurrence of major accidents relating to offshore oil and gas operations and to limit their consequences, thus increasing the protection of the</i></p>

marine environment and coastal economies against pollution, establishing minimum conditions for safe offshore exploration and exploitation of oil and gas and limiting possible disruptions to Union indigenous energy production, and to improve the response mechanisms in case of an accident.”

1.7 Classification of oils in relation to their specific gravity

Crude oil is what is extracted from the well, while the products are the fuels and fuel oils obtained by refining crude oil. According to API, crude oils are classified into four classes according to their density °API. Combining the classification API to the empirical concept of persistence of oils at sea, these are mainly divided into persistent (crude oils, fuel oils and asphalt) and not persistent (gasoline, kerosene and diesel). On the base of this classification we distinguish 4 main groups of crude oils and products:

Table 2: Classification of crude oils and products [source: Biliardo and Mureddu, 2005 (www.medess4ms.eu)]

GROUP	SPECIFIC GRAVITY	°API DENSITY	PERSISTENCE	EXAMPLE
group I	< 0.8	> 45	<i>not persistent</i>	gasoline, kerosene, naphtha
group II	0.8 – 0.85	35 – 45	<i>not very persistent</i>	diesel fuel, Abu Dhabi Crude
group III	0.85 – 0.95	17.5 – 35	<i>average persistent</i>	Arabian Light Crude
group IV	> 0.95	< 17.5	<i>very persistent</i>	Heavy Fuel Oil, Venezuelan crude oils

Non-persistent (Group I) oils tend to evaporate completely within a few hours, while oils of Group IV are very persistent due to the lack of volatile material and high viscosity.

1.8 Properties of oils likely to be spilled in Cyprus

Fuel oils

Table 3: Properties of Fuel Oils

Product	Specific gravity (g/cm ³)	Viscosity (cSt)		Pour point (°C)
		At 20°C	At 38°C	
Heavy Fuel Oil	0.940–0.995	>10000	<1100	<28
Light Fuel Oil	0.920		100	60
Gas Oil	0.870		4.35	

Table 4: Properties of Crude Oils **Crude oils**

Paraffin content	Origin	Type	Specific gravity (g/cm ³)	Viscosity (cSt)	Pour point (°C)
High	Egypt	EL Morgan	0.874	at 38°C 13	13
	Gabon	Gamta	0.872	28.5	30
	Libya	Es Sider	0.841	5.7	9
	Nigeria	Nigerian light	0.844	3.6	21
Medium	Qatar	Qatar	0.814	at 10°C 4.5	-18
	Russia	Romaskinskaya	0.859	20	-4
	Algeria	Zaraitine	0.816	9	-15
	Libya	Brega	0.824	6.3	-18
		Zuetina	0.808	5	-12
	Iran	Iranian Light	0.854	20	-4
		Iranian Heavy	0.869	30	-7
	Iraq	Northern Iraq	0.845	9	-15
	Abu Dhabi	Abu Dhabi	0.830	6.2	-18
		A.D.Zakum	0.825	5	-15
A.D.Omm Shaif		0.840	6.5	-15	
Norway	Ekofisk	0.847	9	-4	
Low	Algeria	Hassi Messaoud	0.802	At 10°C 3	<-30
		Araew	0.809	4.3	<-30
	Nigeria	Nigerian Medium	0.907	60	<-30

		Nigerian Export	0.872	13	<-30
	Kuwait	Kuwait	0.869	30	-18
	Saudi Arabia	Arabian Light	0.851	12	<-30
		Arabian Medium	0.874	29	-15
		Arabian Heavy	0.887	80	<-30
	Iraq	Southern Iraq	0.847	13	-13
	Oman	Oman	0.861	25	-8
	Venezuela	Tia Juana Medium	0.900	70	<-30
Very low	Venezuela	Bachaquero	0.978	at 38°C	-7
			0.980	1280	-3
				2980	

2 The National System of Oil Spill Preparedness

2.1 Division of Responsibility

Responsibilities for responding to oil spills in the Cyprus maritime and coastal areas are shared and undertaken mainly between the National Combat Agency, the District Administrations and the Combat Agencies of port operators, operators of coastal installations handling oil and oil loading/unloading terminals.

The principal division of responsibilities, beginning from the shoreline to the offshore sea areas of the Republic of Cyprus, are assigned as follows:

Table 5: Division of Responsibilities in the National Response System

Territory	Responsibility of
Shoreline/Coastline	The relevant District Administration
Within territorial waters	National Combat Agency
Within Port Areas	The Port Operator
Oil Terminals/Oil Handling Facilities/Power Plants	The relevant Oil Company/Power Plant Operator
Offshore Platforms/Offshore Installations	The relevant licenced Offshore Operator

2.2 Responsible National Authority

The National Authority responsible for oil control, response and implementation of this Plan is the Ministry of Agriculture, Rural Development and Environment (MARDE). MARDE will appoint the National On-Scene Commander and/or the Supreme On-Scene Commander, as the case may be.

2.3 Responsible Department (National Combat Agency)

The responsible Department for managing and implementing this Plan within MARDE is the Department of Fisheries and Marine Research (DFMR). In this respect, DFMR has the overall responsibility for maintaining always appropriate oil spill response and oil recovery equipment stockpiles as well as adequate competent and trained human resources.

For medium to large incidents, which exceed the capacity of the national response, the DMS, in collaboration with the DFMR, may request for the support and assistance from private third party oil spill services and/or from EMSA's Oil Spill Response Services through CECIS or other international sources through REMPEC.

2.3.1 Functional Responsibilities

DFMR and its District Office(s) will respond to any small and limited oil spills/accident in the coastal waters of Cyprus. In case of larger/major incidents, DFMR will activate the Plan and will set under its authority the National Marine Pollution Response Coordination Centre (NMPRCC).

2.3.2 National On-Scene Commander (NOSC)

The overall responsibility for managing the response to oil spills at the most appropriate and environmentally sound manner lies with the NOSC. The national responsible authority will appoint, as a rule, the Permanent Secretary or other designated officer by the Competent authority to act as the NOSC in case of an oil spill which is within the coverage area and scope of the Plan.

The NOSC is responsible for the effective management and coordination of the available national resources and oil spill responders at sea. The government shall provide the NOSC extended powers to ensure the necessary decisions and actions can be taken to ensure a timely response to prevent, minimize or deal with marine pollution. To that end, the State allocates adequate financial resources and oversees actions taken in order that the purchasing and procuring of goods and services does not hinder the response. In cases that require international assistance, it is of particular importance to expedite customs clearance to ensure that resources and equipment may be transported to the incident location and deployed as quickly as possible.

The NOSC is supported by the OSCs depending of the geographical area and extent of the incident and response activities.

The NOSC and OSCs are supported also by a Planning Team and a Response & Operations Team. The Planning Team undertakes surveillance and assessment of the situation, selects appropriate response and waste disposal options and techniques, coordinates scientific monitoring of the possible environmental impacts of the spill,

prepares press releases and coordinates record keeping and claim submission. The Response & Operations Team is composed of intervention and support teams that jointly undertake response actions and operations according to the advice of the Planning Team and other experts.

2.3.3 Supreme/Sub-regional On-Scene Commander (SOSC)

Whereas the coverage of the spill exceeds the national waters and the response requires the involvement of sub regional or international assistance and cooperation, the Director of DFMR or any other suitably trained government officer, shall be empowered to act as the Supreme or Sub-regional On-Scene Commander (SOSC).

2.3.4 On Scene Commander (OSC)

As a rule, the OSC is an experienced senior government officer which is appropriately trained to perform the relevant duties. The OSC is responsible for the management and coordination of the response at the scene of a pollution incident.

2.4 Response Organizational Structure

The National Combat Agency is responsible for the mobilization of oil spill clean-up teams and for supervising and coordinating their actions, in order to effectively deal with oil marine pollution incidents at sea and in coastal areas under their jurisdiction and in accordance with applicable local and/or regional contingency plans, as appropriate.

For dealing with a serious pollution incident, the individual combat teams established under the regional contingency plans of DFMR and the other government services required to elaborate such plans, come under the command of the NOSC that oversees the coordination of all response teams at sea and on shore, as well as their support in the successive stages of clean up operations in the affected areas.

A typical response structure necessary for implementing this Plan requires the following competencies and main groups to be established comprises of:

- ▶ Planning
- ▶ Operations
- ▶ Logistics, technical and material support
- ▶ Occupational Health and Safety
- ▶ Legal, Finance and Administration for keeping records and supporting claims and compensation issues
- ▶ Public relations and mass media

Typical duties in the chain of responding to an oil spill, comprises the following:

- ▶ Surveillance
- ▶ Spill Assessment
- ▶ Communications
- ▶ Spill Control and Recovery methods
- ▶ Disposal of collected oily residues
- ▶ Health and Safety issues
- ▶ Scientific follow-up and adverse effects on the marine and coastal environment
- ▶ Co-ordination with other Government Services and private organizations
- ▶ Liaison with Government and other Parties of Subregional co-operation
- ▶ Record Keeping
- ▶ Legal advice
- ▶ Preparation of compensation/indemnification claims
- ▶ Media and Public Relations.

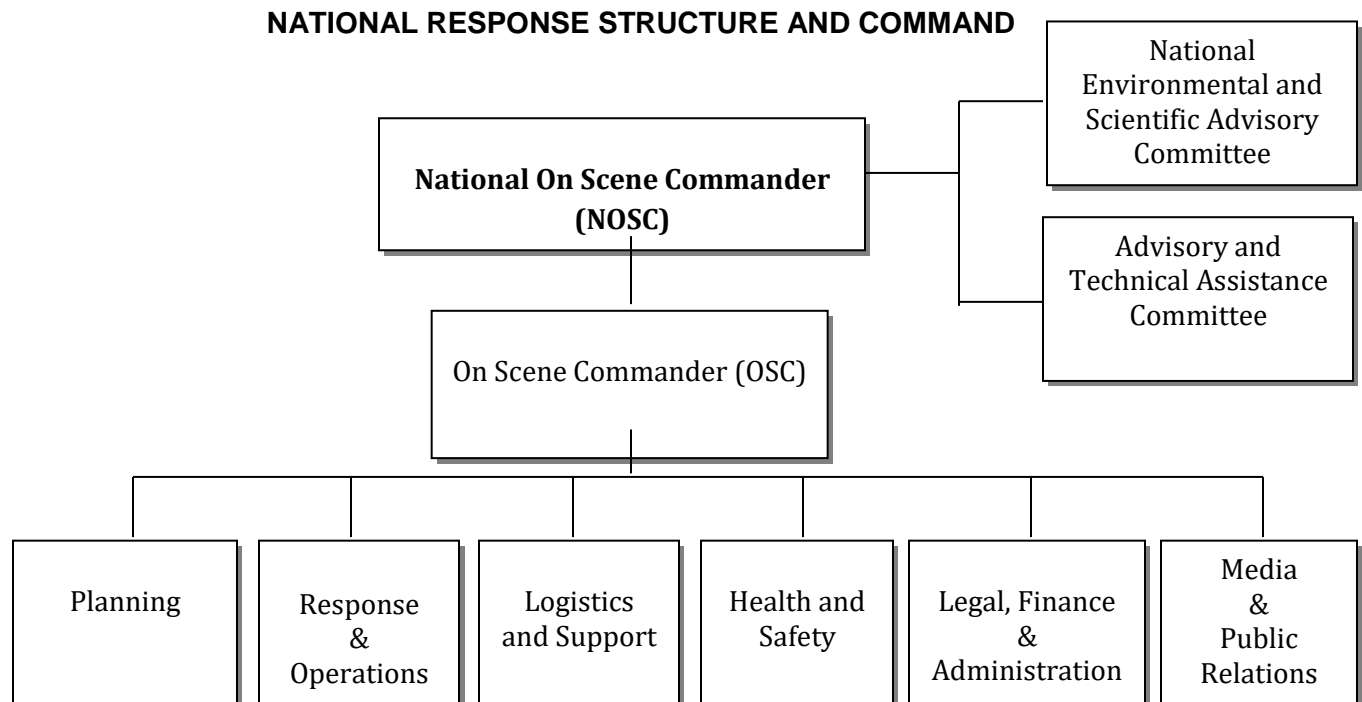


Figure 1 - Typical organizational response structure and command

2.4.1 Support Groups/Teams

The National Combat Agency and the NOSC/SOSC are supported in the response by Groups, Services, Teams and Committees, which are built by suitable public servants. Any government service or agency is required to cooperate and identify experienced and skilled officers and personnel to support the response groups. During an incident response, staff appointed to form the response group will become under the command of the NOSC for as long as the response is ongoing.

The NOSC is empowered to designate suitable officers and personnel from DFMR and other public services to establish and form the following support teams:

2.4.1.1 Planning Team

The Planning Team may consist of suitable senior officers from government and public services to support the NOSC in the implementation of the Plan. The functions and duties of the Planning Team will include the development of strategic and incident response plans, follow-up and provision of scientific and environmental information, weather and oil drift data and distribution of relevant data to the NOSC and OSC as required.

2.4.1.2 Response and Operations Team (ROT)

The functions of the Response and Operations Team(s) will include the following:

- ▶ Oil spill Containment
- ▶ Oil Recovery
- ▶ Oil Dispersion
- ▶ Shore Clean - up
- ▶ Final Disposal of collected oil and materials
- ▶ Diving Operations.

2.4.1.3 Logistics and Support Team (LST)

In any response it is of vital importance to ensure that adequate resources and equipment are made available as required. The functions of the Logistics and Support's Teams will include the following:

- ▶ Transportation of collected oily material
- ▶ Chemicals supply and transportation

- ▶ Fuels supply and transportation
- ▶ Equipment supply and transportation
- ▶ Manpower recruiting
- ▶ Manpower transportation
- ▶ Maintenance of Equipment and Vessels
- ▶ Catering
- ▶ Accommodation.

2.4.1.4 Occupational Health and Safety Team (OHS)

This team shall have the primary duty to ensure the safety of all those involved, and should carry out site and task specific hazard assessments. A site safety assessment should consider communications requirements, manual handling, effects of exposure to ambient temperatures and weather conditions, the interaction between vehicular and pedestrian traffic, ease of site access, the requirement to work in confined spaces, hazards to the eyes, terrain surface and incline, hours of daylight and tidal cycles, machinery usage, and safety on boats or jetties etc.

Access to work sites must be restricted to those personnel who are essential to the clean-up operation. Arrangements must be made for the area to be secured and policed such that no one can enter the work area without reporting to the site supervisor. No workers should be allowed on site until they have received the full vetting and briefing with respect to the Safety Assessment.

It should be ensured that the appropriate equipment, materials, and resources are available at the required times, including adequate and appropriate Personal Protective Equipment (PPE), shelter, accommodation, food and water, refreshment, decontamination facilities, rest areas, sanitation, first aid and medical facilities.

2.4.1.5 Legal, Finance and Administration Team (LEFAT)

The LEFAT, which shall be appointed by the NOSC, shall be responsible for all clerical services, for record keeping, for financial, legal and accounting logistics, for procurement, equipment and support resources. LEFAT is also responsible for all claims, compensation and legal matters against third parties.

The Finance and Administration Group within this Team is responsible for the procurement of necessary resources and supplies, for the keeping of records on expenses incurred and the purpose of the expenses (including personnel, accommodation and transport, and consumables costs), and for the collation of

information necessary to support a claim for compensation. The Finance and Administration Group reports to the NOSC/OSC on all financial and administrative matters and liaises closely with the Logistics Group.

The Finance and Administration Group is specifically responsible for:

- ▶ Monitoring expenditure during the incident;
- ▶ Collating invoices with expenditure to support claims for compensation made against insurers;
- ▶ Advising the NOSC/OSC on compensation matters;
- ▶ Keeping record of all expenditure incurred, including claims for staff time;
- ▶ Liaising with the Administrative Supervisor at the scene of the incident concerning expenditure incurred by the on-scene response team;
- ▶ Providing NOSC/OSC with a daily summary of expenditures incurred;
- ▶ Keeping a duplicate photocopy of all incoming and outgoing correspondence (faxes, e-mails, letters) and filing in chronological order;
- ▶ Providing secretarial support to other Groups.

In certain circumstances, especially for smaller spills, the NOSC may decide to combine the Logistics and Finance and Administration functions, as these Groups will always be required to work very closely together.

2.4.1.6 Media and Public Relations Officer (MPRO)

The MPRO, to be appointed by the NOSC shall be experienced and well informed in order to ensure that the public and the media are provided regularly with updated information on the spill development and response operations.

2.4.2 Advisory Committees

Specialist advice and assistance to support the NOSC in the decision making process, applying the most appropriate strategy, selection and usage of the most suitable oil spill control techniques and response equipment, use of dispersants is available from specialized public agencies and government services.

2.4.2.1 National Environmental and Scientific Advisory Committee (NESAC)

The “NESAC” is the team of experts supporting the NOSC in the decision-making process to ensure a smooth interdisciplinary approach to matters arising when

responding to severe marine pollution incidents. It is composed of permanent representatives of government agencies and is supplemented by specialized scientific consultants, depending each time on the nature of the incident

2.4.2.2 Advisory and Technical Assistance Committee (ATAC)

On the decision of the NOSC, an ATAC can be formed by national experts from government officers or other public and private bodies, including EU institutions with the task to provide the NOSC with specialist technical advice. Such advice may include the fate of oil, selection and deployment of pollution control equipment, use of innovative response equipment and methods, dispersant application. It may also provide specialized advice in relation to the safety, salvage and towage of ships.

2.5 Other Combat Agencies

Operators of every onshore and offshore installation located in the territory of the Republic of Cyprus and EEZ, including ports, harbours & marinas, fishing shelters, oil terminals or other coastal installations dealing and handling with oil of any category, shall have the operational responsibility to maintain a Facility Contingency Plan (FCP) and to take action in order to respond to any oil spill in the marine environment in accordance with their FCP.

FCPs shall be coordinated with the NCP. As such, FCPs must be designed to be compliant with the principal division of responsibilities of section 2.1 and with the tiered response structure of section 2.7 of this Plan. According to Law 51/1979, Law 4/2007 and PI 51/2007, FCPs must be approved by MARDE and MCIT, as the case may be.

FCPs are required to always maintain an adequate stock of oil response equipment and personnel capable of dealing with every identifiable oil spill risk which is likely to occur within their field of responsibility.

Should a situation develop where the necessary response is beyond the operator's capacity including other third party services hired for this purpose by the operator, responsibility for the control of the response will be transferred to the NOSC and the National Combat Agency.

Combat Agencies responsible for responding to marine oil spills in the coastal locations in Cyprus are defined as follows:

2.5.1 Ports, Berths and Port Areas

The relevant Port Operator (Cyprus Ports Authority), using either its own or third party services and arrangements, as required.

2.5.2 Pleasure craft Marinas & small craft Harbours

The Ministry of Energy, Industry and Commerce and/or the private marina/pleasure craft operator, as the case may be.

2.5.3 Fishing Shelters

The Department of Fisheries and Marine Research (DFMR).

2.5.4 Electric Power Plants

The Electricity Authority of Cyprus (EAC), using either its own or third party services and arrangements, as required.

2.5.5 Oil Terminals and Oil Handling Facilities

The relevant oil company or terminal operator using either its own or third party services and arrangements, as required.

2.5.6 Offshore gas/oil exploitation operations

The relevant offshore installation operator who owns a licence to perform offshore exploration and/or exploitation activities in the Cyprus territorial waters or EEZ, using either its own or third party services and arrangements, as required.

2.6 Plan Support from other Government Services - Their Roles and Responsibilities

An effective response to extensive oil pollution of the marine and coastal environment of Cyprus from oil, aimed at protecting the public health, the aesthetic value of coastal regions, the tourist industry, the fishing resources and the biodiversity, is achieved through the cooperation of the entities of the broader public sector and of the National Guard as well as the private enterprises engaged in maritime transport, underwater operations, operations of assistance in towage and salvage at sea and in pollution combating.

If in the opinion of the NOSC, the services and contribution of other Government services are necessary, these will be asked to support any oil spill operation under his/her authority, command and guidance, in accordance with the procedures and standing orders of the Public Service of the Government.

The roles and responsibilities of other Government agencies and services which can be utilized are described as follows:

2.6.1 Ministry of Transport Communications and Works

2.6.1.1 Deputy Ministry of Shipping (DMS)

DMS supports NOSC (Director DFMR) in the implementation of the Plan whenever the NOSC declares that the oil spill exceeds the national capacity. Upon receipt of the notification and request of the Director DFMR, DMS will coordinate assistance as follows:

1. Will ask for the contribution in the response operations from any Public Entity of the Government who owns and operate naval means, including semi-governmental organizations.
2. Will request international assistance from the European Union and EMSA
3. Will hire private third party oil spill response services.
4. Will provide expert advice on ship safety, salvage and towage of ships in distress.
5. Will activate and implement the National Plan for rendering refugee to ships in distress.
6. Will ask for the contribution of any Public Entity of the Government who owns or operate aircraft and naval means in the surveillance of the maritime area of Cyprus with the task to identify any oil spill.

The mobilization procedure via CECIS listed in Appendix 2.

2.6.1.2 Department of Civil Aviation (DCA)

The Department of Civil Aviation provides reports of marine pollution caused by oil that may have been observed by commercial airline pilots.

2.6.2 Ministry of Interior

2.6.2.1 District Administrations (DI)

The District Administrations are required to maintain trained human resources and basic equipment necessary for the support of DFMR response team(s) at shore. District Administrations provide equipment and response to work in the shoreline clean-up response under the command of the NOSC. District Administration(s) oversee shoreline clean-up, under the coordination and guidance of the competent DOFMR and/or the NOSC, depending on the severity of the incident. The District Administrations are required to submit an emergency response plan which will be included in Appendix 10 as a part of the NCP.

2.6.2.2 Cyprus Civil Defence (CCD)

Cyprus Civil Defence (CCD) will support as necessary the competent Local District Administrations with personnel as subsidiary force in shoreline clean-up operations.

CCD will also liaise with EU Civil Protection mechanisms (CECIS) in assisting Cyprus and providing technical assistance and support. CCD is required to submit an emergency response plan which will be included in Appendix 10 as a part of the NCP.

2.6.2.3 Game Fund Service (GFS)

GFS will arrange in cooperation with the Veterinary Service for the immediate and effective protection, rescue, cleaning and rehabilitation of birds and other wildlife resources that are harmed or potentially harmed by oil.

2.6.3 Ministry of Agriculture, Rural Development and Environment (MARDE)

MARDE recommends measures with respect to fishing, aquaculture, the protection of fishing resources, biodiversity and waste management.

2.6.3.1 Department of Environment (DENV)

DENV is responsible for the environmentally sound management of the disposal of all liquid and solid oily waste and residues arising from the oil response and recovery operations. It also monitors pollution response operations and the short-term and medium-term impacts of oil spills on the marine fauna and flora in the affected areas and advises on the appropriate level of restoration of the marine environment. The Department of Environment shall participate in the National Environmental and Scientific Advisory Committee.

2.6.3.2 Department of Meteorology (DoM)

The Department of Meteorology is the accredited provider, from the Government of Cyprus, for the issuance of meteorological data, forecasts and warnings. Under the above accreditation the Department issues on regular base specific weather forecasts and warnings the meteorological situation over the sea of the Mediterranean basin.

2.6.3.3 Department of Forestry (DF)

DF will make available crop-duster aircrafts for aerial observation and for application of oil dispersants, if this is considered necessary and appropriate by the NOSC and provided that aircrafts are not reserved for fire-fighting duties.

2.6.3.4 Veterinary Services (VS)

VS will arrange, in cooperation with the Game Fund Service, for the immediate and effective protection, rescue, cleaning and rehabilitation of birds and other wildlife resources that are harmed or potentially harmed by oil.

2.6.4 Ministry of Health (MOH)

MOH will arrange the provision of medical services to the public and to responders which have been affected by the oil spill. Due its toxicity, oil may cause among others respiratory and skin irritation problems. The MOH will need to be prepared and have the necessary planning in place for the provision of medical first aid on site but also it must have arrangements for the transfer of affected persons to appropriate medical facilities for further treatment. MOH expert personnel provide scientific and medical support at all stages of the response and post response operations.

2.6.4.1 General Chemical Laboratory of State (GCLS)

GCLS performs urgent chemical analysis as requested by the NOSC, analyses to identify and fingerprint hydrocarbon pollutants and carries out, eco-toxicity tests, facilitating the work of the competent DOFMR/DMS in identifying those responsible for oil marine pollution and to determine which chemical oil dispersants can permissibly be used for dealing with marine oil pollution. GCLS also advises the National Coordinator on appropriate protection and response measures to the marine environment and participates in the National Environmental and Scientific Advisory Committee

2.6.5 Ministry of Justice and Public Order (MJPO)

MJPO's services will support the National Coordinator/NOSC in any oil spill combating operation and will provide through sea and aerial patrols information on the movement of the spill in the affected maritime area Cyprus Fire Service is in charge of fire safety in case oil and derivatives thereof are accidentally released on land and oversees the protection of nearby on-shore installations and facilities in the case of leaks of flammable products. The Cypriot Police will make available helicopters/airplanes and crews for surveillance of Cypriot waters and to identify potentially polluting ships through JRCC (Larnaca), following a decision of the NOSC.

2.6.5.1 Marine and Port Police (MAPOL)

MAPOL will provide naval assets to assist the oil spill response operations by DFMR naval services. It will monitor the marine environment, provide data on oil slicks at sea, will assist in the transport of equipment and personnel, and will assist DMS in the identification and prosecution of polluters.

2.6.5.2 Police Aviation Operations Unit (PAOU)

PAOU will provide aerial observation and data of the maritime area. May also act as an AOS Commander if other aerial units are engaged in the oil spill response operations (i.e. for the coordination of aerial dispersant operations with the FD)

2.6.6 Ministry of Defence

2.6.6.1 Joint Search and Rescue Coordination Centre (JRCC)

JRCC is the first point of reporting an oil spill incident or marine accident. JRCC will receive, evaluate and forward to the Director of DFMR any information or report received on marine pollution by oil. Will coordinate any further relevant assistance requested by the NOSC and will transfer relevant feedback also to Limassol VTMISS.

2.6.6.2 National Guard (NG)

Upon the request of the NOSC, the National Guard will provide equipment and support in shoreline clean-up and oiled waste transport through ground, naval and air units.

2.6.7 Ministry of Labour Welfare and Social Insurance

2.6.7.1 Department for Labour Inspection (DLI)

Will provide during oil spill response operations the NOSC with advice on the proper Health and Safety arrangements and precautions that are necessary for the protection of all personnel involved.

2.6.8 Ministry of Finance

The Ministry of Finance expedites, through its competent customs services, the customs clearance of internationally-provided pollution response equipment, materials and consumables associated with the disposal, in appropriate facilities on-land, of the oil collected from the sea surface or from the tanks of a casualty or from a wreck when dealing with emergency incidents. Having regard, the provisions of Fiscal Responsibility and Budgetary System Law (Law No. 20(I)2014) as well as the relevant provisions of the Constitution, the Minister of Finance should take into consideration the required financial funds for the acquisition of the equipment, consumables and third party services.

2.6.9 Ministry of Foreign Affairs (MFA)

The Ministry of Foreign Affairs notifies the diplomatic authorities of foreign countries when citizens thereof are howsoever involved in a pollution incident, and notifies, through the Cypriot diplomatic authorities, other countries and organizations for provision of assistance or in case of a joint response to an incident that may affect both countries.

2.6.10 Oceanography Centre of the University of Cyprus (OC-UCY)

The Oceanography Centre of the University of Cyprus (OC-UCY) will provide predictions on the transport, fate and weathering of oil spills and the movement of floating objects in the Mediterranean. Will also provide oceanography forecasting data on sea state and sea currents to enable the decision making process in order to adopt the most

appropriate oil spill response strategy. The OC-UCY may participate in the National Environmental and Scientific Advisory Committee

2.7 Levels (Tiers) of Response

Under this Plan, oil spills and their response requirements are categorized into three “Tiers”. This concept provides a structured approach to both building preparedness for responding to oil spills and to actually undertaking counter pollution measures in case of an incident in such a manner that additional resources can be called upon and integrated into a response operation as the severity of an incident grows.

Potential spill incidents in each tier are categorized in relation to the volume of spilled pollutant and the location of the incident, although the limits of each tier are not defined.

The national system provides for the escalation of response activities depending on the severity of a pollution incident. The Plan recognizes that basic (Tier 1) spill response capabilities at different ports, oil handling facilities, coastal installations and offshore units complement each other and can be combined with those owned by national authorities and services to give joint capability for dealing with more severe (Tier 2) or even major (Tier 3) spills.

The National Plan’s three level response is based on the following spill scenarios:

Table 6: National level (tiers) of Response

Category(Severity) of oil spill (TIER)	Level of Response	Plan Implemented by
TIER 1 - (0-20 MT)	A relatively small and confined oil spill for which the Combat Agency will be generally able to respond to and clean up a spill utilizing own and local resources. In case additional resources are needed, these will be available from mutual aid agreement, or by utilizing the National Combat Agency.	Combat Agency + National Combat Agency (DFMR)
TIER 2 - (20-100 MT)	A medium sized oil spill requiring additional resources under mutual aid agreements and/or national assistance. The resources of the Combat Agency will be needed to be supplemented by private third party oil spill	Combat Agency + National Combat Agency (DFMR)

	responders and if necessary by the National Combat Agency.	+ DMS
TIER 3 - (>100 MT)	A large oil spill requiring national assistance. The Combat agency will require local, regional, national and possibly the intervention of international assistance.	Combat Agency + National Combat Agency (DFMR) + DMS

2.8 Oil Industry Arrangements

Operators of oil handling installations/oil terminals in Cyprus, as defined under section 2.5, have to maintain Combat Agency responsibilities and to have an FCP in place in accordance with Article 11 of the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (Barcelona Convention), ratified with Law 51/1979 as amended with Laws 20(III) /2001 and 35(III) /2007 for combating marine pollution incidents. FCPs are to be coordinated with the NCP. As such, FCPs must be designed to be compliant with the principal division of responsibilities of section 2.1 and with the tiered response structure of section 2.7 of this Plan.

Also operators of offshore installations, which operate within the Exclusive Economic Zone of the Republic of Cyprus in accordance with Article 16 and Annex VII of the “*Protocol for the Protection of the Mediterranean Sea Against Pollution Resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and its Subsoil (Offshore Protocol)*”, which has been ratified by the Republic of Cyprus, and in addition in accordance with Article 11 of Law No.4/(I) of 2007 and with applicable Sections 13 (2) (c) and 15(6) (a) of Regulation No.51 of 2007, are required to have emergency plans in place for combating marine pollution incidents . These emergency plans (FCPs) are to be coordinated by extension with the NCP.

In general, any operator is required to have arrangements capable of dealing with an oil spill incident of the TIER 3 category. This can be achieved either by own resources, or by a mutual aid agreement(s) between the operator and other oil industry stakeholders and/or third party service providers.

Should a situation develop where the necessary response is beyond the control of the oil handling installation/oil terminal, the Combat Agency will transfer the command of operations to the National Combat Agency. In this event, the industry’s resources will continue to be involved in the oil spill clean-up and recovery operations under the command of the National Combat Agency and NOSC.

Operators of oil handling installations/oil terminals in Cyprus are required to submit their FCP's/emergency response plans to the Competent Authority for approval. These plans shall constitute an integral part of the NCP and will be included in Appendix 10. DFMR in cooperation with DMS shall periodically assess the efficacy of these plans through on-site exercises and a timetable of such exercises shall be drafted and included in the Appendix 10. constituting.

2.9 Risk Assessment

The location of national oil spill response equipment is based on a risk profile of the Cyprus near coast maritime area. The island nature of the country imposes that, for planning the allocation of pollution prevention and combating means, emphasis must be placed both on marine areas where there is an objectively a higher possibility that a serious pollution incident may occur due to the frequent passage of transit tankers and due to the operation of on-shore oil-handling facilities or offshore installations or because environmentally sensitive protected areas (sea parks, lagoons, river deltas, areas where protected species lay their eggs, areas of particular natural beauty, etc.) might be threatened.

The following risk factors are considered as posing the greatest threats for oil pollution:

- ▶ Ship accidents, including collisions, groundings, explosion, structural failure and disintegration
- ▶ Ship traffic
- ▶ Transfer of oil during ship bunkering operations and STS
- ▶ Transfer of oil from oil tankers to oil handling facilities and power plants
- ▶ Transboundary oils movements in neighbouring countries
- ▶ Operation of the offshore installations of Oil and Gas exploration and production

The risk assessment takes also into account other geographical, economical and sensitivity parameters as follows:

- ▶ Areas of high ecological value and in need of special environmental protection, especially Natura 2000 areas (offshore and onshore)
- ▶ Areas with economic activity (tourism, public beaches, hotels, desalination, water intakes, fishing, fish farms, port and marinas) to be severely affected from an oil spill
- ▶ Locations with dense ship traffic
- ▶ Locations with dense oil transfer operations
- ▶ Amount and properties of oils likely to be spilled
- ▶ Areas with limited or difficult access
- ▶ Fish farms and shell-fish farms
- ▶ Aquatic habitats

- ▶ Industrial sea water intakes
- ▶ Sites of archaeological interest
- ▶ Areas of a particular natural beauty, Mediterranean Specially Protected Areas and areas protected under National Fisheries Law,
- ▶ Shallow-water areas or sea areas with little hydrodynamic circulation, where the use of chemical oil dispersants must be avoided

The level of success to a catastrophic oil spill scenario depends mainly on the proper identification of the imminent risks. This is best done through regular risk assessment. The Mediterranean Decision Support Tool for Maritime Safety (MEDESS-4MS) MEDESS-4MS can be used as it offers a comprehensive and integrated multi-model approach regarding our response to oil spills at sea and takes into account all three important aspects related to marine pollution, that is, Prevention, Detection and Control.

2.9.1 Worst Case Scenario

Table 7 summarizes the number of tanker visits to each oil-receiving coastal facility, and the products and average volumes transported and transferred. This information can be used to identify the most probable worst case oil pollution scenario in Cypriot waters.

Table 7: The average number of tankers visiting oil-receiving coastal facilities each year, and the average volumes of heavy grades of oil discharged in each visit:

Facility	Number	HFO (MT)	Gasoil (MT)
Dhekelia power station	24–36	20–30,000	
Vasilikos power station	24	20-30,000	

An operational discharge during HFO transfer at a power station could feasibly result in the release of several hundred tons of oil into the environment, close inshore. By experience and past accident analysis, an empirical correlation between the tanker size and spill amount is given in the following table:

Table 8: Correlation between the tanker size and the estimated spill amount

Deadweight (DWT) tons	30,000	50,000	70,000	100,000	200,000	240,000
Estimated spill amount	700	1100	3,000	5,500	10,500	15,000

2.9.2 Financial Arrangements

The government provides the National Combat Agency and the head of the response organization of oil marine spill response operations (NOSC) extended powers, facilities and possibilities in order to take decisions and to promote actions with the aim of timely responding to or avoiding of potential marine pollution incidents. Aimed at that, the Government allocates the adequate financial resources and funds and oversees actions taken in order that the forecasted scheduled processes regulating tenders for purchasing and procuring of services via competitions and offers do not constitute obstacles in the required actions.

2.9.3 “National Marine Pollution Response Coordination Center(NMPRCC)”

The NMPRCC is the centre to be established by the DFMR after an oil spill incident occurs at sea, which usually requires coordinated actions at national or international level. Suitable locations for such a centre are the Limassol Vessel Traffic Monitoring and Information System (VTMIS) or the Joint Rescue Coordination Centre (JRCC Larnaca) or Coordination Centre “ZINON”, where appropriate telecommunication and monitoring facilities exist, which are necessary for the effective coordination of the response operations at sea.

2.9.4 Communications

Efficient lines of communication are essential in order to ensure that spillage response is carried out efficiently. The NOSC/OSC must maintain effective lines of communication during an incident, using appropriate telecon equipment or VHF devices. [A contacts directory of all necessary key organizations, public and private entities, officers and personnel is available in Appendix 8](#), which shall be maintained and be available anytime for consultation and reference.

2.9.5 Personnel

Personnel requirements for response to a marine pollution incident shall be decided on a case by case basis depending on the size, severity and complexity of an incident. In the case of larger and very large incidents of the Tier II or Tier III category, such requirements shall be determined by the NOSC and in case of Tier I by the responsible DFMR commanding officer.

Spill response personnel for initial response to marine pollution incidents shall be recruited from district administrations, government agencies and departments, national services and agencies identified in the NCP. At the national level, such personnel shall also be available for a major response either in their own or in any other area.

In case of major and prolonged pollution response operations, the NOSC may recruit additional manpower from public services, the National Guard and private companies.

Sources of trained personnel are listed in Appendix 6.

2.9.6 Equipment Availability

The national oil spill response equipment of the Republic of Cyprus is owned and managed by the Department of Fisheries and Marine Research (DFMR).

The main volume of OSR equipment (TIER III) and central stock is stored in Limassol. A regional stockpile for TIER II response is maintained in Larnaca. Smaller quantities of response equipment, mainly for TIER I response, are maintained:

- ▶ In Limassol (Port of Limassol);
- ▶ In Paralimni (Protaras - Golden Coast fishing shelter);
- ▶ In Paphos (Paphos Harbour).

Limassol maintains also the national stockpile of oil spill dispersants. OSR from Limassol central stockpile may be transferred anywhere in Cyprus, while the Larnaca stored OSR is tasked to strengthen oil spill response operations between Larnaca and Famagusta.

Details of available equipment and quantities are described in Appendix 1.

2.9.7 Wildlife Response

The impact on wildlife and biodiversity can have severe consequences and will depend upon the environmental sensitivity, the type and quantity of the pollutant and the location of the oil spill. Public opinion and media react very sensitive on scenes and pictures of oil birds and wildlife and the measure of success to an oil spill is often measured by the ability to protect and rehabilitate oiled wildlife.

The government Veterinary, Game Fund, DFMR and Health Services have the primary responsibility to maintain an appropriate and well designed oiled wildlife response plan and to provide proper guidance and arrange for the necessary personnel for the immediate and effective protection, cleaning and rehabilitation of affected birds, animals and other wildlife.

The Veterinary, Game Fund and Health Services are required to submit their oiled wildlife response plan which will be included in Appendix 10 as a part of the NCP.

The above services may be supported by Non-governmental and wildlife organizations

2.9.8 Place of Refuge – Ships in Distress

In certain circumstances directing a stricken vessel to a place of refuge may be considered a priority action to prevent or reduce the harmful effects of a spill.

Granting refuge to a vessel in distress is done in accordance with the provisions of the “Plan for the Accommodation of ships in Distress”, which has been approved by the Minister of Transport, Communications and Works and drafted in accordance with the relevant IMO guidelines and the Article 22 of The Merchant Shipping (Community Vessel Traffic Monitoring and Information System) Laws of 2004 to 2012 (L.131(I)/2004 as amended).

The Committee on Places of Refuge-Safety, established in the above mentioned Law, is chaired by the DMS director and takes independent decisions on its own initiative and may designate any appropriate area as a place of refuge, in accordance with IMO Resolution A.949 (23) concerning ‘Guidelines on Places of Refuge for Ships in Need of Assistance’, depending on a range of environmental and climatic factors as well as the nature of the incident. At the moment there are three designated places of refuge, Ports of Limassol, Larnaca and Vassiliko.

2.9.9 International Emergency Assistance

In case of a large scale marine pollution incident exceeding the response capacities available within the country, the competent national authorities may request assistance from EMSA and the EU. [The mobilization procedure via CECIS and ERCC of DG ECHO is shown in Appendix 2.](#)

Whenever it becomes necessary to contract EMSA’s Stand-By Oil Spill Response Vessels, the Government allows the circumventing of the prescribed procedures for procuring services only through public tenders and empowers the Director of DMS to review and sign the “Incident Response Contract”.

International Assistance or specialist advice from other countries may be also requested through the Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC), in the framework of the regional system for the protection of the Mediterranean Sea established by the United Nations Environment Program (UNEP), or through the Sub-regional Agreement for combating major marine pollution incidents affecting or likely to affect the territorial sea, coasts and related interests of Cyprus, Egypt and Israel or at a bilateral State level. [Emergency contact details of DG ECHO/ERCC, EMSA and REMPEC can be found in Appendix 8.](#)

2.9.10 Training and Exercises

It is essential that all personnel likely to be involved in a marine pollution incident meet certain requirements and standards of competency. Training programmes, to the

standard of the relevant IMO model training courses, shall be carried to all levels of competency, including clean-up personnel and operators (Level 1), middle management personnel responsible for the managing the response operations (Level 2) and senior management and Administrators responsible for the decision making in the response operations (Level 3).

To test and examine the capability of a Combat Agency to mobilize anti-pollution resources and equipment in response to an oil spill at sea, but also to test the reporting, communication and emergency response procedures, it is essential to regularly train the resources through the conduct of regular exercises. Exercises can be performed at regional, national or international level. They can range from notification exercise, table-or full-scale equipment deployment exercise, or all of them.

Exercises shall be held at frequent intervals, at the discretion of the National Combat Agency or NOSC. As a guidance, full scale mobilization exercises shall be held at least at intervals not exceeding two years.

Upon a approval of the NCP, both DFMR and DMS shall inform all other public agencies with regard to their competencies and responsibilities. **A timetable of planned exercises shall be prepared to assess their preparedness and efficacy of their response. The timetable of exercises will be part of Appendix 10.**

3 The National System of Oil Spill Response

3.1 Notification of marine oil spill incidents

Under article 8 and Protocol I of the International Convention for the Prevention of Pollution from Ships (MARPOL), ratified with Law 57/1989, as amended, there is a requirement for reporting marine pollution incidents.

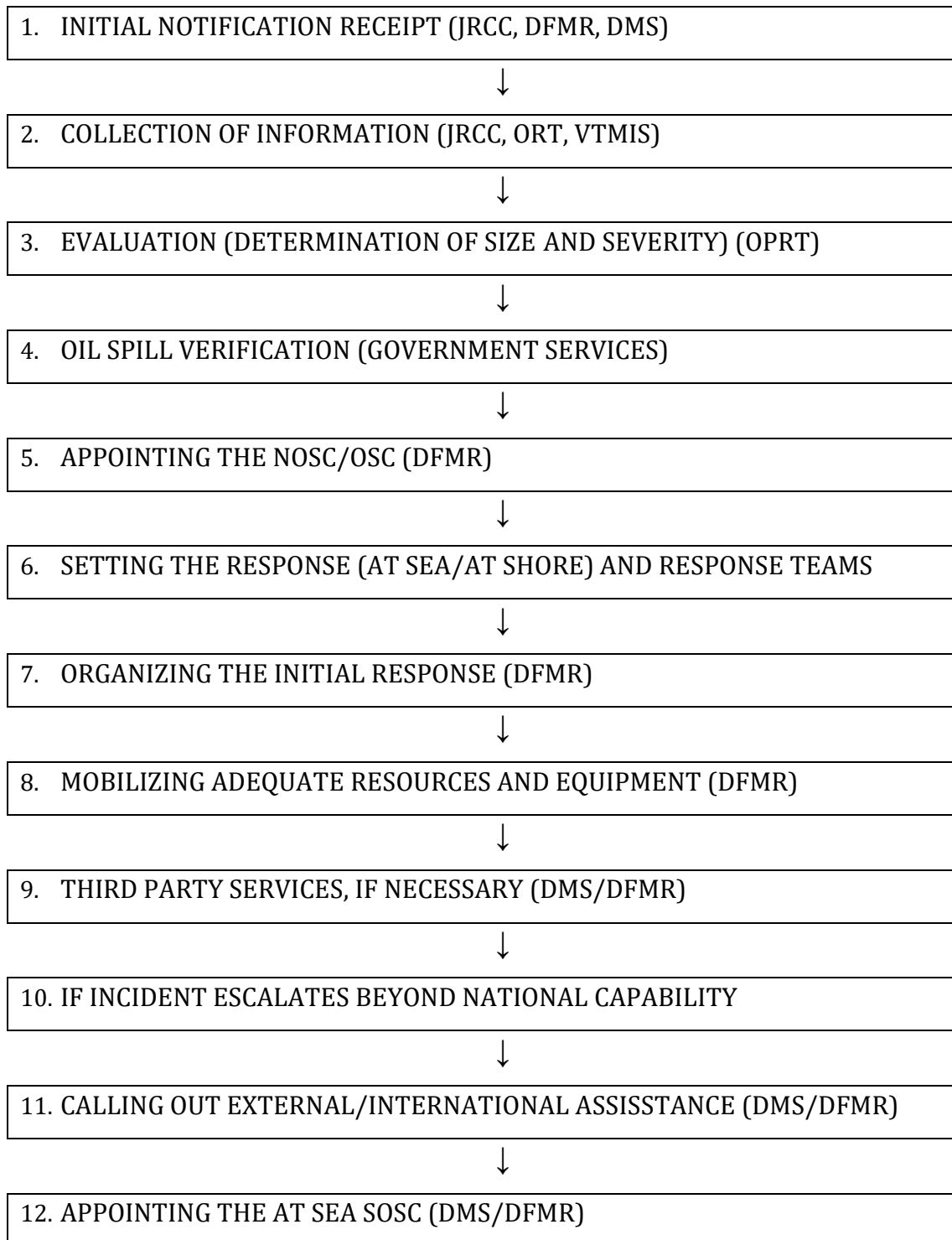
The governmental authority responsible for receiving notifications and reports for marine pollution incidents is the DFMR and DMS, preferably through JRCC. Upon receipt of any report, the JRCC forwards the information to DFMR and DMS. Information and reporting of marine pollution incidents should contain at least the following information:

- ▶ details of the reporting party;
- ▶ contact details;
- ▶ observation date and time (Local/UTC);
- ▶ exact geographical position or details of the sea area where the incident occurred;
- ▶ information pertinent to the incident (i.e. collision, grounding, explosion, fire);
- ▶ sea and weather state at the incident position;
- ▶ source of the pollution incident or reason for presenting a reasonable risk of causing marine environment;
- ▶ type and estimated quantity of oil discharged into the sea and likelihood of further pollution;
- ▶ initial actions undertaken for dealing with or limiting any oil spill adverse consequences.

Upon receipt of any notification on a pollution incident, the competent authority (NCA) assesses the information received, investigates the information and takes the decisions required for the response actions. This includes the determination of jurisdiction and apportioning Statutory and Combat Agency responsibilities. The NCA shall also advise the relevant Combat Agency of the requirement and need to respond, in accordance with their approved FCPs.

For any pollution incident within the area of responsibility of a Combat Agency, the Agency is required to issue a formal Pollution Incident Report (POLREP) on the format provided in Appendix 3. The POLREP shall be submitted to the National Combat Agency (DFMR) with a copy to the DMS.

The following flowchart describes in general the basic steps which should be followed in setting the required and appropriate response.

Flowchart – Notification Procedure

3.2 Notification of pollution incidents to EU and other International Organizations

In case of any serious incident of oil pollution, which may endanger or impact neighbouring countries, the National Combat Agency forward information and details of the incident in the form of a Pollution Report (POLREP) to REMPEC, while DMS submits the POLREP to EMSA and ERCC. POLREPs shall be prepared in the format shown in Appendix 3. Emergency contact details of EMSA, ERCC and REMPEC can be found in Appendix 8.

3.3 Initial assessment of the risk due to a marine oil spill

After receiving the initial information, the oil spill must be verified by operators of government owned aerial and naval surveillance equipment. Depending on the extend of the oil spill, a plan for the regular observation of the oil spill movement from air is applied so that, in conjunction with meteorological and hydrographical data, valid predictions for its movement can be made along with assessments on the threat it poses for sensitive fauna and flora species in the wider sea area of the incident.

The usual steps to assess an oil spill in order to decide for the necessary mitigation measures is described in table 9 below:

Table 9: Main steps for the assessment and Response to oil spills

Procedure	Required Information
INITIAL REPORT	Position and Location, Time, Extend of spillage, Quantity of Oil spilled, Type of Oil spilled
VERIFICATION	Data from aerial & naval surveillance equipment
ASSESSMENT	Sea State, Currents, Tides, Properties of Oil, Oil Spill Predictions - Fate of Oil
RESPONSE DECISION	Availability and Location of Response Equipment & Personnel, Support tools, Priority setting
RESPONSE	Evaluation of effectiveness of response, top-up and adapt as necessary

3.4 Immediate Measures and actions to control the extend of pollution

An effective oil response strategy shall take into consideration the following basic principles of response:

- A. The first priority should be the containment and mechanical recovery of the oil from the sea and to prevent drifting of oil to the shoreline.
- B. Depending on the sensibility and depth of the marine environment, any amount of oil at sea which cannot be recovered shall be dispersed with the use of chemicals before it drifts to the coast.
- C. Despite the above actions, if any amount of oil drifts to the coast, it shall be recovered by shoreline cleaning response personnel and mechanical equipment.

In the event of an oil spill in the marine environment, the following counter measures should be employed, according to the circumstances of the spill, its location and conditions prevailing:

1. Control, minimize and/or stop the oil outflow from the source
2. if coastal, marine or economical resources are threatened, determine whether to begin response operations, either at sea and/or to protect sensitive resources
3. Contain the oil while at sea and avoid its further spread
4. Determine appropriate cleanup priorities and other response measures for the shoreline areas affected.

The importance of human health and safety in any response operation cannot be overstressed.

3.5 Decision Making and Priorities for Protection

The 100 km of coast between Limassol and Larnaca is home to major socio-economically sensitive resources including commercial ports, seawater-cooled power stations, desalination plant water intakes, marinas and fishing shelters, in addition to high amenity value sandy and rocky shoreline and seafront hotels and developments.

Ecologically sensitive resources are located predominantly in the less-developed north and west of the island and include sea turtle (*Caretta Caretta* and *Chelonia mydas*) nesting beaches at Lara–Toxeftra and Chrysochou Bay, which are protected sites under national legislation. Saltwater lakes at Larnaca and Akrotiri, although designated as Mediterranean Specially Protected Areas, are not considered especially vulnerable to oil

pollution due to the wide barrier separating them from the sea, which is not normally overtopped except during severe storms. Ecological sensitivities will be subject to seasonal variations. Female turtles come ashore to nest in May–August and hatching occurs in July–September. Wading bird populations are highest during the winter months.

The majority of the coastline is comprised of rocky shores (380–400 km) and cliffs (200–220 km), with often limited access. Approximately 55 km of coastline is comprised of sandy shores, with the remainder classed as ‘mixed’ shoreline.

As the economy of the Republic of Cyprus is dependent upon the continuing operation of the power stations, the Port of Limassol and desalination plants, these facilities would be the highest priority for protection. Based on a worst-case scenario of a release of several hundred tons of HFO during discharge at a power station, failure to protect water intakes in a timely manner could result in interruption to the supply of electricity. Were oil to threaten the intakes of one of the coastal desalination plants, the supply of freshwater could be compromised. Major disruption to commercial activities would result if shipping traffic into and out of the port of Limassol were to occur.

High amenity or ecological value coastlines, other ports, marinas/fishing shelters, fish farms and coastal fish hatcheries that draw in seawater would be a secondary priority. Sites of archaeological interest may also need special consideration.

A map of sensitive resources is given in Appendix 4.

3.6 Response Planning and Strategies

The tendency of oil to spread and fragment rapidly, especially in rough sea conditions, restricts the ability to recover oil at sea. The movement of slicks and the changing nature of the oil through weathering will determine whether any response, beyond monitoring the dissipation of the slick, is necessary. In many cases, depending on the size of the spill, if sensitive coastal resources are not threatened by the drifting oil, and if weather conditions are sufficient to facilitate natural breakdown of the oil, no further response may be warranted. Where an active response is called for, the weathering processes will require the suitability of selected clean-up techniques to be re-evaluated and modified as the response progresses and conditions change.

The generally acceptable methods for dealing with oil pollution incidents are given below and shall be selected on a case by case basis:

1. Monitoring and assessing;
2. Stopping or limiting the discharge source;

3. Restricting access and removing ignition sources;
4. Containment and mechanical recovery of the oil spilled;
5. Chemical dispersion, whenever the conditions allow;
6. Protection of priority sensitive areas;
7. Shoreline clean-up:
 - (a) Mechanical / manual clean-up;
 - (b) Containment on land;
 - (c) Removal with vacuum unit;
 - (d) Use of absorbents / adsorbents.
8. Even if no active response is deemed necessary, regular surveillance and modelling of the fate and trajectory of oil will be necessary.

Depending on the severity and size of an oil spill response incident, It is recommended that the responsible Combat Agency (governmental or private) shall clearly detail the aims, objectives, actions and activities of the anticipated response by drawing and preparing strategic or incident response plans, to be followed on short or long term basis.

3.7 At sea response

The preferred method for responding to a spill of oil at sea in Cypriot waters is containment and mechanical recovery using skimmers or equivalent systems, provided this is possible and practicable given the type of oil spilled and the location of the spill etc. If mechanical recovery systems are deployed, the type of skimmers and pumps used may need to be changed as the oil weathers, its viscosity rises, and emulsions form. The use of sorbents should be limited to situations where the use of skimmers is not possible or practical, and they should not be used with heavy fuel oils. Lightest grades of oil may be left for natural dispersion and evaporation.

For an accurate assessment of the pollution and the effectiveness of the combating operations undertaken, the situation must be continuously supervised and mapped and an effort made to predict how the spill will move and behave. Whenever possible, priority is given to airborne surveillance equipment of PAOU or the National Guard Air Staff and other Branches of the National Guard and/or private parties following consultation and a decision by the NCA. The oil spill movement and behaviour shall be monitored at the

same time by fast boats and other vessels in cooperation with airborne surveillance equipment.

If the spill is caused by a ship running aground, by collision or a shipwreck, the NOSC following consultation with DMS and DFMR may request that a party be sent for underwater inspection and assistance in the pollution prevention and combating operations, and that a team of surveyors/experts be sent by DMS for surveying the ship, for taking the necessary safety measures and assisting the Planning Team. The surveillance frequency is fixed by the NOSC depending on the prevailing circumstances.

The situation is assessed by the Planning Team based on the properties of the oil spilled, the prevailing weather conditions (wind, currents, temperatures, etc.) and is constantly updated by incorporating all available information. For ascertaining the oil properties and for monitoring how oil moves and behaves, if deemed necessary, samples are taken for subsequent analysis by the General Chemical Laboratory of State (GCLS). The situation is reassessed as soon as new information on the location and movement of the oil spill is received.

Before giving any instructions on carrying out combating operations, the NOSC assesses the situation based on the following criteria: safety of personnel, safeguarding of property and protection of the environment.

If the pollution source is a shipwreck and operations for stopping the discharge have been undertaken by a salvage company, the NOSC participates in the decision-making process and in discussions with the salvage company appointed.

As a matter of good practice during the response operations, the responsible local OSC keeps the NCA and NOSC periodically updated with the latest information and developments. This is best done through the issuance of periodic progress reports, which shall entail as much information as necessary. The progress reports are dispatched to the NOSC/NCA, who discloses them to interested parties.

3.8 Shoreline Response

The selection of the most appropriate clean-up technique on the shoreline will depend on the degree and type of contamination, together with the length, nature and accessibility of the affected coastline. In deciding priority actions, the combating demands on the marine environment need to be considered. For example, amenity use may demand quick and effective methods for the removal of the oil but these may not be compatible with environmental considerations that may call for less aggressive, slower techniques. In such situations, a balance has to be struck between these potentially conflicting interests, for the response as a whole and on a site-by-site basis.

Shoreline clean-up operations form three stages:

1. Emergency phase: collection of oil floating close to the shoreline and pooled, bulk oil ashore.
2. Project phase: removal of stranded oil and oiled shoreline material.
3. Polishing phase: final clean-up of light contamination and removal of oil stains, if required.

The first priority is always to recover oil floating against the shore or heavy accumulations of stranded oil that may remobilize on subsequent tides as quickly as possible, to prevent it moving to previously uncontaminated or cleaned areas. Once potentially mobile oil has been collected, it may then be necessary to find a compromise between waiting until all the oil remaining at sea has come ashore to avoid cleaning the same area more than once, although oil can become buried by successive tides, particularly on sand beaches, or commencing the second stage of operations immediately.

The most costly and time-consuming component of the overall response to a spill of oil is often the treatment or disposal of collected waste. As a consequence, unless other overriding factors are present, the clean-up technique chosen should be one that results in the minimum amount of waste collected for removal. This has the added benefit of minimizing the quantity of material for subsequent storage, transport and final treatment/disposal, as well as reducing the possibility of shoreline erosion. Flotsam and jetsam may also be removed before any oil arrives so that the amount of oiled debris for disposal is greatly reduced.

For many shoreline types, removal of all traces of oil will be difficult or inadvisable. As a consequence, it is not always obvious when a shoreline, or a particular work site, is sufficiently clean to allow work to terminate. One important factor is the 'use' of the affected area in terms of the relative importance of environmental, social and economic concerns. As the amount of oil remaining on the shore decreases, so cost becomes more important because the effort and expenditure required to achieve further cleaning rise disproportionately in relation to the amount of oil removed. An exhaustive final clean-up stage, whereby traces of oil and oil stains are removed is, therefore, usually required only for low-energy, high-amenity areas during, or just prior to, the tourist season. The criteria for termination of the clean-up are usually discussed jointly and agreed following inspections conducted by a team comprising representatives of the various organizations involved in the response.

The procedures set out in the Mediterranean Oil Shoreline Assessment Guidelines (REMPEC, 2009) may be used as a useful guidance and reference. Guidelines for conducting shoreline assessments are included in Appendix 5.

3.9 Response Equipment

DFMR will allocate sufficient equipment to respond to spills identified in the risk assessment as likely to occur within their respective areas of responsibility of each DOFMR. This gives each area the independence both to deal with minor spills and to mount a credible first response to more significant incidents.

The allocation of equipment will be subject to regular review, with reference both to the risk assessment and consultation with the regional and local authorities, to ensure suitable levels and appropriate types of equipment are distributed at the correct locations. The key considerations shall be the flexibility and the ability to quickly re-deploy equipment either regionally or nationally.

All equipment allocated to local industry and regional DOFMRs remains the property of DFMR as part of an overall national oil spill response equipment inventory. As such, it shall always be available for emergency re-deployment to other areas in the event of a spill. Planning for new equipment purchases and replacement will be undertaken by DFMR, in consultation with DMS and relevant Ministries.

DFMR shall maintain a complete database of all national oil spill response equipment, including dispersant stocks. All response equipment will be maintained by DFMR according to standards specified in the maintenance plans to ensure its readiness, availability and reliability.

The inventory of national oil spill response equipment and products use in marine pollution response operations is given in Appendix 1. The inventory includes the names and contact details of these entities and of responsible persons, as well as the exact locations of stockpiles.

Government-owned oil spill response equipment may be hired by third parties at the conditions and hire rates specified by DFMR. The cost of replacement of damaged or destroyed items shall be borne by the polluter or its insurer, or compensated through the international compensation regime, as appropriate.

3.10 Contracting Third Parties

The NCP provides for engagement of private enterprises specialized in dealing with marine pollution, as appropriate and necessary. In order to ensure the availability of experts, trained personnel and manpower in TIER I/II/III incidents, DFMR and/or DMS shall preferably agree in advance with the public agencies or private sector companies the conditions for engagement of their employees in case of emergency.

Commercial contracts, agreements and memoranda with private entities should include provisions for defining their roles, responsibilities and conditions for engagement of their personnel, equipment or other resources.

3.11 Application of Dispersants

Chemical dispersants consist of a surfactant and a solvent, that together act to penetrate the oil slick and break it in to smaller droplets, which remain in suspension and are broken down by natural weathering processes.

Although chemical dispersion is not a preferred response option for spills in Cypriot waters, it is however recognized as a potentially effective technique in certain situations, according to the type of oil spilled and the extent of weathering and emulsification, weather and sea conditions, the size and location of the spill and the resources at risk. When spill containment or at-sea oil recovery is not possible, the option of using dispersants is examined after taking into consideration the overall environmental conditions and the relevant standing circulars issued by DFMR.

Article 7 of Cyprus Law No.57 of 1989 determines that *“the use of dispersants or other chemical substances for pollution combating is prohibited, without the approval of the Director of the Fisheries Department of the Ministry of Agriculture, Rural Development and Environment”*.

Use of chemical dispersants is restricted to waters of 30 m depth or greater and is excluded from waters in the vicinity of coastal National Parks, Marine Reserves and Specially Protected Areas, however the Director of DFMR may authorize their use in these areas if she/he deems it to be necessary.

Dispersants that have been certified and approved for use in any EU Member State, (France, UK) may be considered for application in Cyprus. DFMR maintains stockpiles of approved dispersants and vessels equipped with dispersant spray arms. Whenever dispersants need to be purchased only new generation dispersants are considered, which are certified with low toxicity specifications. The Republic of Cyprus maintains an approved list of chemical dispersants which fall under the provisions of REACH regulation.

Aerial application of dispersants may be undertaken by aircraft operated by the Forestry Department.

A list of approved dispersants by Cyprus is given in appendix 1.

Mechanical dispersion should never be used, as whilst this may appear to disperse surface slicks in the short term, in the longer term a high proportion of the oil will re-coalesce at the sea surface.

3.12 Occupational Health and Safety Management

Fresh crude oil and refined petroleum products are capable of giving off dangerous and flammable gases. Therefore, fire and explosion remain a real danger to personnel and equipment, particularly when fresh crude oil and certain refined products are situated in confined locations. At all times response managers should be aware of the limitations and safe operating procedures for all equipment used throughout the phases of the clean-up operation. This should, where necessary, include a risk assessment and development of a formal site-specific management plan, including details for induction and briefing procedures. Fresh oil may also cause skin and eye irritation as well as inhalation problems to response personnel.

Not only crude oil, but also the use of chemical dispersants either by sea or by air brings certain dangers that need to be considered.

To avoid the endangering of all those involved in the response, the responsible OHS Team shall develop an appropriate response Health and Safety Plan in accordance with applicable national legislation. The Plan shall incorporate documented processes for risk evaluation and assessment, the necessary briefing of personnel on the health and safety hazards, proper use of PPE, site specific health surveillance requirements, regular side monitoring, pre-entry procedures, PTW, first aid, medical facilities and decontamination.

3.13 Oil spill Trajectory modelling

Oil spill trajectory models constitute an essential element in contingency planning and in preparing effective response strategies to combat hazardous oil spills at sea. Such models rely on the ability to predict meteor-marine conditions of the sea through the use of atmospheric, wave and hydro dynamical numerical models; in combination with information on the location, rate, nature and characteristics of an oil spill, the derived forecasted fields are used to provide in advance some knowledge on the fate and track that the oil slick will follow in time. Upon the request of the NOSC/SOSC, the Oceanography Centre of the University of Cyprus may deliver data and prognosis on the fate of oil along with ocean forecasting.

The above modelling software is also available at both the premises of DFMR and JRCC where trained operators from DFMR or DMS may use the software for complementary modelling.

3.14 Special Marine Operations, Towage and Salvage

In the event of an incident involving a damaged or disabled ship, salvage action may be needed to take the vessel in tow, re-float, reduce or stop a discharge of oil or extinguishing a fire onboard.

The vessel's Master/Owner has a responsibility to appoint a suitable salvor without delay. However, in cases where this does not occur and where an imminent risk for causing damage to the marine environment or property, the Committee on Places of Refuge established by virtue of *the Merchant Shipping (Community Vessel Traffic Monitoring and Information System) Law of 2004*, Law 131(I)/2004 as amended, (national laws transposing Directive 2002/59/EC) may order the towage of a ship (paragraph 1(d) of the Fourth Schedule of Law 131(I)/2004 as particularly amended by Law 98(I)/2010). All costs incurred in this relation will be borne by the operator of the ship involved.

It should be understood that the ship owner or the entity causing an incident with an imminent risk of pollution, or causing pollution, that ship owner or entity is required to remove, as soon as possible, from the ship all bunkers, lubricants, hydraulic fluids, the water which has entered in the hull of the ship and has been contaminated by oil or other pollutants, as well as, all other marine pollutants stored on board, either in portable containers or in tanks. It may be also required in certain circumstances to remove, at the cost of the owner, the ship from its current location to another safer position.

Whenever it becomes necessary, DMS may seek for specialized advice by suitable independent salvors. DMS maintains records of suitable companies that can provide independent expert advice on towage and salvage operations, including an assessment of the appropriateness of the proposed salvage operations and salvage plans by the responsible source of pollution.

3.15 Waste Management and Disposal of Oily Waste

Oil response operations and clean-up actions may generate substantial amounts of oily debris, either liquid or in solid form. In most of the times, oil is mixed with other substances such as water, sand or soil. The costs associated with the handling, transportation and disposal of oil and solid oiled waste are likely to form a very significant component of the overall cost of a spill response. In order to minimize cost recovery for waste-related expenses, a number of recommended practices should be followed. This best practice is commonly referred to as the waste hierarchy, whereby efforts are made at all stages of the response:

- (a) to reduce the volume of waste generated, through the selection of appropriate techniques and conservative use of resources;

- (b) to re-use resources such as PPE and sorbents wherever possible and
- (c) to recycle any components of the waste stream for which this is possible and practicable. To facilitate this, the various waste streams should be segregated in line with the technical requirements of the final disposal route to be followed.

The disposal of oily residues, oil contaminated materials and litter is performed under the supervision of the persons in charge of the reception facilities and installations as evidenced by the documents prescribed by law.

Temporary storage, transportation and final disposal methods must be arranged by the responsible environment protection agency (Department of Environment, MARDE) and shall comply with applicable national legislation. The Department of Environment shall identify areas or locations with necessary sufficient capacity and environmental protection in order to deal with large oil spills and relevant storage. A list of such storage sites with their capacity shall be included in Appendix 7.

Details of licensed oiled waste transport contractors and disposal facilities in Cyprus are given in Appendix 7.

The Mediterranean Oil Spill Waste Management Study and Decision Support Tool aims to facilitate the develop of national waste management policy into an 'oil spill waste management plan', considering possible waste treatment methods, the types of waste that may be produced during an oil spill and the existing facilities for their disposal. Further information and a downloadable version of the tool can be found at: <http://www.rempec.org/rempecwaste/index.aspx?langue=1>

3.16 Environmental Impact Monitoring and Restoration

The desired degree of environmental restoration in marine areas and coasts affected by the pollution incident is determined in cooperation with Department of Environment, General Chemical Laboratory of State and the Local Government and the District Administration bodies involved, with due consideration given to any recommendations and instructions of the Ministry of Energy (Department of Trade and Tourism Industry), and the Ministry of Agriculture, Rural Development and Environment (Department of Fisheries and Marine Research). Restoration also involves intervention for the replacement of coastal materials depending on its type and its use.

In the areas identified in the local contingency plans as sensitive areas having an increased need for protection, as a rule, scientific field research is required for assessing the medium-term and long-term impact of pollution on marine coastal life.

3.17 Evidence Collection and Sampling Analysis

The collection of evidence is an essential aspect at the end of each contingency for proving violations and supporting court cases against the polluters but also for compensation issues. The successful enforcement of pollution regulations will very often require collection of evidence both on site and on board the vessel.

Collecting evidence on site requires rapid and coordinated actions from all parties as the time window to obtain information can be short: visible evidence of the spill at sea will often weather out in a couple of hours and vessels can move far away from the position of the pollution. Aircraft and helicopters, and in particular aircraft equipped with specialized remote sensing equipment, are the most appropriate assets to investigate on-site initial indications of possible discharges in a timely manner. Vessels are slower to reach the area and it is more difficult to observe a spill from the bridge of a vessel than from the air. However, vessels or helicopters are necessary for taking samples or recovering sampling buoys dropped by aircraft. Vessels have also the capability to recover garbage floating in the wake of a vessel.

Collecting evidence in port as a result of shipboard investigation will often involve actions requiring cooperation at national and international level. This should also be done as quickly as possible, when the evidence is more easily linked to pollution.

All stages in the collection of evidence are likely to require cooperation between different authorities. Evidence shall be collected to:

- ▶ characterize the spill;
- ▶ establish the link with the polluter;
- ▶ prove intent, recklessness or negligence (if this is required); and to
- ▶ otherwise support the case.

Samples must be obtained from all possible sources on board a ship and shall be sent quickly to an accredited laboratory, preferably to the GCLS, for the chemical analysis and comparison with the oil spill samples. For a proper analysis, special attention and consideration is needed to be paid for correct sampling, storage, handling and preparation for sampling.

3.18 Equipment Recovery

On completion of each response operation, the equipment used or hired shall be recovered and returned back to its point of origin for inspection, cleaning and maintenance. Equipment that is beyond economical repair shall be replaced.

A report on the usage of equipment shall be issued by the responsible Department and shall include information on the condition before and after the operation, , location of usage, hours of operation, and details of any damage.

The National Combat Agency shall ensure that all costs incurred in the usage, returning, repairing and replacing of equipment are included in the overall schedule list of costs submitted for compensation or reimbursement by the polluter.

3.19 Termination of the Response

The response to an oil spill incident will be terminated once the NCA, on the basis of evidence and information received by the operations group and expert advice, considers that the clean –up and restoration of the affected area has been completed.

Clear criteria and processes for the termination of spill response activities, both at sea and on the shoreline, should be determined at the start of the response by the NOSC, on the basis of advice received from the Planning, Operations Teams and other expert advice. These criteria should take into account the sensitivity and use of each response site, and should be agreed with relevant stakeholders. It may be necessary to modify criteria as the incident evolves. It is recommended that a Net Environmental Benefit Analysis approach should be adopted, to ensure that clean-up does not continue once it has ceased to provide an overall benefit to the environment and resources affected, above and beyond that which could be achieved by natural cleaning and recovery.

3.20 Claims and Compensation

Dealing with pollution of the marine environment originating from whatever source affecting sea areas and coastlines will generally be a protracted and expensive business. Ideally those costs should be directly borne by the source of the pollution. As a consequence, it is strongly recommended here that the government authorities in charge of implementing the pollution response plans should engage immediately with the source of the pollution, and its advisors, to establish what part of the response they can and are willing to deal with directly. Agreements achieved in those circumstances may greatly alleviate the burden on the response authorities.

“The “polluter pays principle” is a dominating principle as regards marine pollution incidents. It is also a key principle of the European Union’s environment policy in that the cost of preventing pollution or of minimising environmental damage due to pollution should be borne by those responsible for the pollution. Under this principle it is not the responsibility of the government to meet the costs involved in either prevention of environmental damage, or in carrying out remedial action because the effect of this would be to shift the financial burden of the pollution incident to the taxpayer.

It is stressed that record keeping is essential for good cost recovery. Documents compiled during incident response should clearly show information received, decisions

taken, orders given, action taken and daily personal activity logs as well as all direct financial expenditure. A team of record keeping personnel shall be established to keep and maintain records of all activities related to the response and clean-up operations for the adequate, substantial and timely compensation to the affected victims. Such a Team may be engaged in training of all the responders prior to being assigned clean-up duties.

It is essential, from the outset, that an experienced Financial Co-ordinator shall be appointed in the aim to manage effectively the claims and compensation issues. All response participants shall keep records and whenever feasible also photographic evidence, of how, when and why, they responded. These records are needed to support claims for cost recovery and to show that the actions taken were proportionate and reasonable for the threat from pollution and the risks to safety. It is simply not realistic to rely on memory to reconstruct events in a fast moving and possibly lengthy incident. Responders must therefore arrange to keep adequate records.

In marine pollution incidents, the polluter shall directly appoint salvors and/or counter pollution resources, thereby not inflicting any costs on the State for those activities. However, if a shipowner fails to meet its obligation and therefore the government feels it is necessary to deploy its own resources, it should bear in mind that its intervention may have a financial impact on the activities of commercial companies.

To enhance transparency, claims management is conducted preferably in accordance with recognized guidelines. The *“EU Claims Management Guidelines”*, published by EMSA, provide a solid basis of knowledge and a well-structured approach towards preparing and filing justified and proper claims.

The IOPC Funds have developed a series of criteria for establishing whether claims are eligible for compensation. The essential criterion is the reasonableness of the measures, based on an assessment of the facts available at the time of the decision to take them. The measures taken should be appropriate and offer a reasonable prospect of success. The cost of the measures taken should be reasonable, and should not be disproportionate to the results achieved or the results which one could reasonably expect.

An example of the type of documentation that may be necessary to substantiate a claim may include:

- ▶ letter of liability,
- ▶ description of the incident (initial assessment),
- ▶ outline of environmental threat,
- ▶ report on sample analysis,
- ▶ copies of oil spill / chemical spill modelling,
- ▶ copies of risk assessments for all operations,

- ▶ report on results of collected satellite imagery and aerial remote sensing operations,
- ▶ response plan and options including justification for selecting measures,
- ▶ copies of relevant weather reports,
- ▶ time sheets of staff hours worked (on a daily basis),
- ▶ copy of annually defined hire rates on State owned equipment etc,
- ▶ daily progress reports,
- ▶ copies of minutes of meetings, clearly stating who participated and their role,
- ▶ invoices relating to procured equipment and services or contracted companies and the justification report for these actions,
- ▶ coastline clean-up; costs for temporary storage; transport and waste treatment
- ▶ report on reinstated cleanliness inspection of the coastline,
- ▶ overall report on the response measures to the incident,
- ▶ report and invoice on cleaning of equipment; repair and/or additional maintenance of the equipment,
- ▶ catalogued photographs of activities.

The IOPC Funds' claims manual summarizes its criteria in more detail; the manual, and a general information booklet, can be downloaded from:

<http://www.iopcfunds.org/publications/>.

FUND 1992 reporting format: report to the IOPC Funds on receipt of contributing oil. This form can be downloaded from:

<http://www.iopcfund.org/npdf/OILFRM-92-SuppE.pdf>

3.21 Sources of Compensation

As the Republic of Cyprus is a Contracting State to the International Convention on Civil Liability for Oil Pollution Damage, 1992 (CLC 1992), the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1992 (FUND 1992), and the International Convention on Civil Liability for Bunker Oil Pollution Damage, 2001 (BUNKERS 2001), compensation for actions taken to prevent and respond to oil spills from certain shipping incidents may be available from the vessel's Protection and Indemnity Insurer and/or from the International Oil Pollution Compensation Funds.

As the International Convention Civil Liability for Oil Pollution Damage do not apply in incidents from offshore activities, the provisions of Law 4/2007 as amended and P.I. 51/2007 shall apply.

3.22 Updating the Plan

This Contingency Plan shall be considered as a “living document”. As such it will require relevant and frequent updating in order to reflect to organizational changes, division of responsibilities, regional or international cooperation agreements, developments in oil spill response techniques, contacts directories and other details. A joint Committee established by DFMR and DMS reviews and updates the Plan at an annual basis.

Any changes or editorial amendments that become necessary for correction can be performed by DFMR. The final approved plan will be kept at the Director’s office of the DFMR and any subsequent amendments following annual meetings between DFMR and DMS will be appropriately marked as new version. All relevant agencies will be notified as to the agreed changes.

The Final version of the National Contingency Plan will be available at the website of DFMR.

Appendices

- Appendix 1 - National Inventory of oil spill response equipment and products for use in marine pollution response operations, owned by DFMR.
- Appendix 2 - The mobilization procedure via CECIS and ERCC of DG ECHO - Step by Step Procedure for the Mobilization of assistance
- Appendix 3 - Formal Pollution Incident Report (POLREP).
 - Appendix 3.1 - Internal Pollution Incident Report
 - Appendix 3.2 - DFMR POLREP
- Appendix 4 - Map of sensitive resources.
- Appendix 5 - Guidelines for conducting shoreline assessments.
- Appendix 6 - Sources of trained personnel in oil response and recovery.
- Appendix 7 - Details of licensed oiled waste transport contractors and disposal facilities in Cyprus.
- Appendix 8 - Contact Details of Key organizations and personnel
- Appendix 9 - Response Strategies – Technical Data Sheets
- Appendix 10 -
 - A. Facility Contingency Plans (FCPs)
 - B. Time-table of on-site Exercises