

North Adriatic Maritime  
Incident Response System

# Standard Operating Procedures





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This document is based on the agreed but not ratified “Agreement on the Sub-Regional Contingency Plan for the Prevention of, Preparedness for and Response to Marine Pollution Incidents in the Adriatic Sea” from November 2005.  
ALL DETAILS MUST BE AGREED.



## North Adriatic Maritime Incident Response System

# Standard Operating Procedures



Co-funded by the European Union



# Introduction

## Introduction

The North Adriatic Maritime Incident Response System (NAMIRS) adopts a holistic approach to marine pollution incident management, at sea and on shore with the scope of preventing maritime disasters and protecting from possible effects and damage in the North Adriatic Sea.

The North Adriatic Sea – a semi-closed basin where the three partner countries of this project, Croatia, Italy, and Slovenia, share a marine surface of approx. 550 sq.km – is an area of extreme importance for activities such as: coastal and maritime tourism, transport of goods and passengers, fishery, aquaculture, oil & gas, energy and communication, sand extraction, cultural heritage and protected areas.

In this context, accidental marine pollution, in particular deriving from oil-spills, is a dangerous threat with potentially devastating environmental and economic consequences. NAMIRS complements existing National Contingency Plans that are insufficient to tackle transboundary threats. Furthermore, better preparedness and a more coordinated response at a transnational level are in line with the Barcelona Convention and related Protocols.

The Standard Operating Procedures aim at identifying the relevant authorities and their respective roles in the implementation, activation and upkeeping of the NAMIRS framework for coordinated response at sea in the North Adriatic area. They define the steps to take in the event of an oil spill at sea, how to alert the NAMIRS partners, what information is necessary to plan the operations, who will be involved and how the operations should be undertaken. On shore intervention is not a matter of the present SOPs and is managed following national and local plans.

Finally, the SOPS are intended to be applied within the waters under the jurisdiction of the partner Countries, between the coast and the high seas as a measure to prevent, mitigate or eliminate the serious risks and damage to the coast or related interests, which may arise from the pollution of marine waters from hydrocarbons, following a maritime accident or events connected to such an accident, which appear likely to have serious and harmful consequences.

These SOPs could integrate the new transnational Contingency Plan elaborated in parallel with the NAMIRS project.

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# General Framework

## Competent national authorities and contact points

According to the Contingency Plan agreed and in force, hereafter 'the Plan', each Party shall designate an authority responsible for coordinating at the national level all activities related to response to pollution from ships, and in particular for the exchange of information between the Parties to the present Plan. For the purpose of the Plan such authority shall be called national Pollution Prevention Co-ordination Centre (PPCC).

The overall responsibility for the implementation of the standard operating procedures and for the activation of the Joint Response Operations (JRO) remains therefore within the national authorities of the state Parties.

The NAMIRS framework distinguishes among responsibilities that belong to a Governmental authority and those that belong to an Operational authority.

### Governmental Authorities

Governmental Authority refers to the designated competent Department having the governmental responsibility for dealing with pollution at sea. The responsibilities that follow under the jurisdiction of the Governmental Authorities include (but are not limited to):

- Implementing the Plan;
- Supervising the implementation of the Plan;
- Ensuring that revisions and amendments as agreed by the Parties are properly included in the Plan;
- Ensuring the compatibility of the National Contingency Plan (NCP) with the NAMIRS framework.

### Operational Authorities

Operational Authority (Prevention) refers to the designated competent Department having the responsibility for the prevention of pollution from ships. The responsibilities that follow under the jurisdiction of the Operational Authorities include (but are not limited to):

- With respect to the maintenance of the Plan
- ensuring the appropriate level of preparedness with respect to: trained personnel, equipment, communication and other assets;
  - liaising with other entities and authorities at the National level;
  - participating in other activities and meetings as indicated in the Plan;
  - keeping up to date the relevant contacts and necessary Annexes.
  - responsibilities in case of marine oil pollution incidents:
  - activating the Plan and notifying other Parties;

- reporting pollution incidents in accordance with the standard POLREP system;
- coordinating, at the level of each Party concerned, response operations in case of the activation of the NCP, and coordinating JRO in case of subsequent activation of the NAMIRS framework;
- coordinating, at the national level, the participation of the authorities and/or services of other Parties in JRO;
- requesting and/or rendering assistance as needed;
- coordinating the sending, receiving, using and returning, as appropriate, of personnel, equipment and other resources rendered as assistance within the framework of the Plan.

The Operational Authorities in charge of the NAMIRS framework, should be the same authorities responsible for the implementation of the National Contingency Plans. Other crucial actors in the framework of the plan are the *National Contact Points* (see Annex 1) which are responsible for receiving reports on marine oil pollution incidents and for transmitting this information to their respective Operational Authorities and other interested parties within the country.

## Assumption of the lead role

According to the Plan, the **Operational Authority** of the Country whose area of responsibility or area of interest has been affected or is likely to be affected by a marine oil pollution incident, has the duty to activate the Plan, thus taking the lead role in the operations. However, the lead role shall be transferred from one Party to another, when the major part of the pollutant has moved from the area of responsibility of the Party that has activated the Plan or initially requested assistance, to the area of responsibility of another Party that is requesting assistance.

The Lead Party shall be responsible for:

- surveillance of the pollution;
- assessment of the situation;
- forecasting the spill movement;
- reporting;
- exercising Operational Command over JRO.

## National on-scene commander (NOSC) / Supreme on-scene commander (SOSC)

According to the Plan, each Operational Authority shall nominate a **National On-Scene Commander** (NOSC) who will have operational control over all response activities of the respective Party, including control over personnel (strike teams), equipment and self-contained units (vessels, aircraft).

When the Plan is activated, the NOSC of the Lead Party shall assume the role of Supreme On-Scene Commander (SOSC).

The SOSC shall have the overall responsibility for all decisions and actions taken in order to combat the pollution and to mitigate its consequences, and for the coordination of JRO. The SOSC, working in coordination with the Lead Authority, shall have Operational Command over JRO.

The NOSCs of the assisting Parties shall operate under the overall Operational Command of the SOSC, however, he/she shall retain operational control over their respective personnel, equipment and self-contained units.

In agreement with the SOSC, the NOSCs may also retain the command of response within his/her area of responsibility or area of interest.

In exercising his/her functions, the SOSC shall be assisted by a Support Team.

## Support Teams

Operational Authorities of each Party shall set up their national Support Team in order to assist the National On-Scene Commander. The Support Team shall be composed ad hoc by the representatives of various relevant public authorities, national services and industry, especially the oil and shipping industries.

In case of the activation of the Plan, Support Teams shall operate from their respective national Emergency Response Centres.

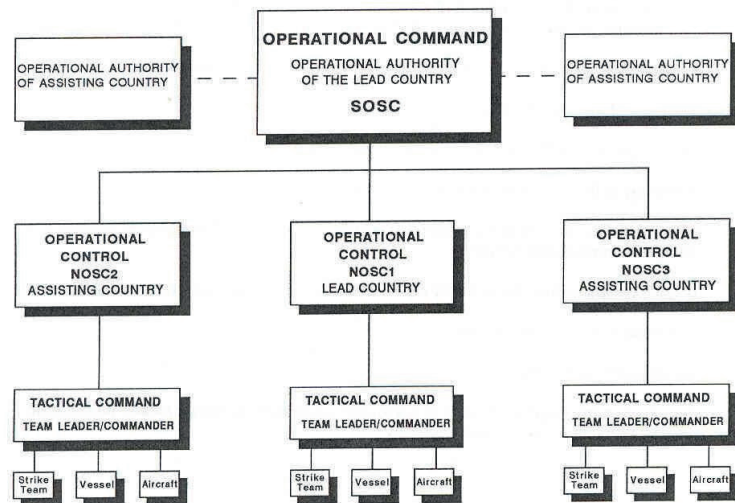
## Emergency Response Centres / Joint Response Centres

The Emergency Response Centre (ERC) set for the purpose of the Plan will be manned 24 hours a day, 7 days a week (24/7). Each ERC is equipped with an appropriate communications system and have the necessary facilities to be used as the operations room of the Operational Command during JRO. The contacts for the ERCs are listed in Annex 1.

In cases of the activation of the Plan, the ERC of the Lead Party shall assume the role of the Joint Emergency Response Centre (JERC). The JERC shall serve as the base of the Supreme On-Scene Commander (SOSC) and as the main communications centre for all communications related to the implementation of the Plan.

## Command Structure

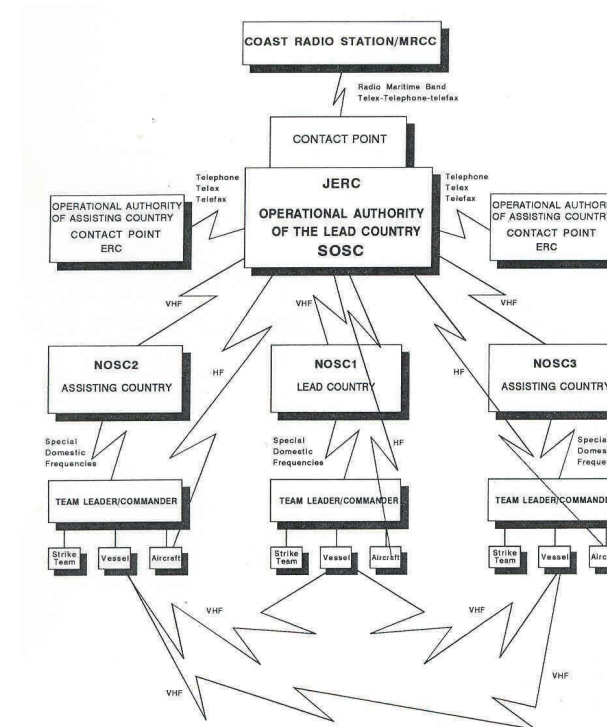
The Command Structure for JRO is shown as follows:



Liaison between the Lead Authority and the assisting Parties shall be maintained, according to the circumstances and to the type and importance of the assistance rendered, in one of the following ways:

- by direct email, telephone, telex, fax and/or radio contacts between the Lead Authority (SOSC) and Operational Authorities (NOSCs) of the assisting Parties;
- by a Liaison Officer, sent to the Lead Party by the Operational Authority of the assisting Party with a view to being integrated in the staff of the SOSC. The duty of the Liaison Officer shall be to provide the necessary information on the resources rendered as assistance and to facilitate communication with his/her respective NOSC, ERC and/or strike teams and self-contained units taking part in JRO;
- by the NOSC of the assisting Party who personally attends at the spill site and participates in the JRO.

## Lines of Communication



## Response Elements and Planning

Pollution response operations have been divided as follows:

- Pre-activation of the Plan
  - Phase I: Evaluation
  - Phase II: Notification and consultation

In the first stages, before the activation of the NAMIRS framework, the early response operations will be applied by the Country in whose area is initially located the source of the pollution or in which it is reported, according to its National/Local Contingency Plan.

- Activation of the Plan
  - Phase III: Notification of activation
  - Phase IV: Request for assistance
  - Phase V: Joint Response Operations at sea
- Termination of Joint Response Operations and Deactivation of the plan (in this phase decision must also be made regarding the disposal of all the waste collected during phase V).



# Checklists

## PHASE 1.1 – RECEPTION OF A WARNING AND FIRST EVALUATION

Notification and verification of the initial information concerning a pollution incident shall be done at the national level, in accordance with the provisions of the NCP (National Contingency Plan).

The operational Authority of the Party affected by an incident, or the Party likely to be affected first, shall assess and determine, taking into consideration the severity of the incident including the place of its occurrence, the nature and quantity of the pollutant and other relevant elements, the level of response required and whether or not to activate the Plan.

Before activating the Plan, the Operational Authority of the Party concerned shall activate its NCP.

N.	WHAT	HOW
1	If the Local Operational Authority (such as Harbour Master and MRSC - MAS in Italy) of the Party whose area of responsibility or area of interest have been affected or are likely to be affected by a marine oil pollution incident, receives a warning about a possible oil spill in water, it has to proceed as follows:	
2	<b>Verify the reliability of the information</b> , in order to acquire every element useful for setting the subsequent response actions.	
3	Collect from the actor reporting on the spill every useful element to know the nature of the pollution and specifically: <ul style="list-style-type: none"> <li>• geographic location of the alleged spill;</li> <li>• type, size and characteristics of traces of pollution detected;</li> <li>• possible causes of the spill and origin;</li> <li>• weather conditions in the area;</li> <li>• telephone number or a contact of the witness;</li> </ul>	

N.	WHAT	HOW
4	Send a patrol boat or other dependent naval asset to the signaled area, to check the current situation;	
5	Check any presence of naval units in the area, Acquire the tracks of the ships that have passed through the sector reported in the last hours;	AIS or other systems-sensors used by the Operational Authority.
6	Interrogate every naval unit present in the reported area and send them to the area to check the situation;	VHF or other means of communication in use.
7	<p><b>If naval unit is assumed involved:</b></p> <ul style="list-style-type: none"> <li>Acquire all the documentation in possession relating to the vessel of interest (Ship details, shipowner, insurers, Hazmat, crew list and pax list, bunker on board and its typology, safety data sheet of the product on board).</li> <li>Investigate any <b>damage</b> suffered, conditions of stability, buoyancy and seaworthiness;</li> <li>Verify the presence of <b>people</b> on board;</li> <li>Check if there are any <b>injured people</b> and their condition and if there are <b>people at sea</b>;</li> <li>Investigate the type of cargo transported, in particular to research the <b>characteristics of any polluting goods</b> transported and the <b>bunker loaded</b> on board;</li> </ul> <p>If the pollution report comes from the naval unit itself, verbally warn the master immediately to adopt any useful measure for the containment and elimination of the pollution.</p>	Acquire this information from Ship reporting System ADRI-REP, SafeSeaNet and the VTS Centre located in the area.

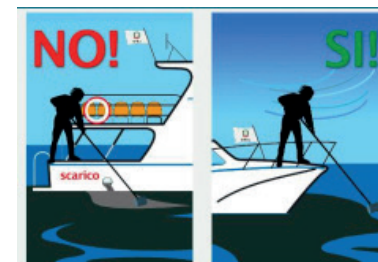
N.	WHAT	HOW
8	If there is a fire on board or if any danger for the human life at sea is reported, all measures should be taken to rescue people first and to extinguish the fire on board the ship, using local and national plans.	<p>Inform the Search and Rescue authority in charge by territory.</p> <p>If there is fire on board and the dimensions of it require a massive intervention from the three Countries, activate the NAMIRG Group.</p> <p>See NAMIRG SOPs: <a href="#">NAMIRG_D.2.2 Handbook on SOPs.docx</a></p>
9	<p>Upon completion of the first assessment:</p> <ol style="list-style-type: none"> <li>Pollution excluded: return to the normal set-up;</li> <li>Ascertained pollution: continue with the next steps.</li> </ol>	

**PHASE 1.2 – EVALUATION OF THE SITUATION AND APPLICATION OF NCP**




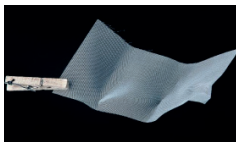
If the pollution is confirmed after the first assessment, acquire more information about the situation and apply all measures provided by the national response system.

N.	WHAT	HOW
1	Local Operational Authority has to gather more detailed information about the pollution.	
1.1	Before any other operation, consider the opportunity to create an <b>Exclusion Zone</b> around the area affected by the oil spill/incident to seclude it in order to prevent any maritime traffic around it. The same should be done for the air space above the area of the oil spill/incident, to avoid any aerial asset in the zone and to keep it clear and safe for the potential approach with a helicopter or other asset to evaluate the situation or to transfer a boarding team on board the ship.	VTS Centre or Maritime Authority has to declare the exclusion zone with proper information to the ships through VHF or other means of communication, requiring also the issuing of the appropriate Notices to Mariners (NTM) and Airmen (NOTAM) and/or specific Prohibition Ordinance/No flight zone for the area of incident.
1.2	If it is immediately clear that the oil spill has huge dimensions or it threatens to involve the territorial water of another partner Country of the NAMIRS, all gathered information must be shared as shown in Phase 2, point n. 1 with the National Contact Points of other Countries, in order to pre-alert their ERC.	<a href="#">See SOPs Annex 1</a>

N.	WHAT	HOW
2	<p>If the source of the pollution is known, acquire from the polluter every available data and characteristics about the product spilt.</p> <p>The chemical-physical characteristics of hydrocarbons are summarized in the relevant <b>safety data sheets</b>, which producers and carriers must possess and store in the manufacturing facilities and on board the vessel that carries them.</p>	
2.1	<p>If it is not possible to obtain this information, Local Operational Authority, possibly assisted by experts, has to make a <b>sample</b> of the oil to analyze it to determine its properties. Sampling techniques may differ depending on the physical state and thickness of the oil spill, so the sample should be taken by <b>experts</b> or <b>trained personnel</b>. In general, every sample made from on board a ship/patrol vessel, should be taken from the bow or, in any case, away from the exhausting system of the engine of the ship.</p>	<p>A list of the best available techniques about sampling can be found in the following links.  <a href="https://www.isprambiente.gov.it/files/pubblicazioni/quaderni/ricercamarina/Quadernon4Modalitdicampionamento.pdf">https://www.isprambiente.gov.it/files/pubblicazioni/quaderni/ricercamarina/Quadernon4Modalitdicampionamento.pdf</a></p>



2.1

Thickness	Method	Picture
> 1 mm	Bottle method	
> 1 mm	Teflon cone	
< 1 mm and iridescences	Schomaker sampler	
< 1 mm	Teflon sheets	

Source: ISPRA "Modalità di campionamento degli idrocarburi in mare e lungo la costa".

3

Local Operational Authority has to alert experts (such as chemical consultant of the port, ISPRA / ARPA for Italy or other local-national research authorities), to request technical analysis about the material at sea according to the safety data sheet and its possible evolution in time and on any precautions to be taken during the response operations. Take into account that every oil has its own properties and its own persistence in the sea.

An updated List of contacts should be arranged in every Local/National plan.

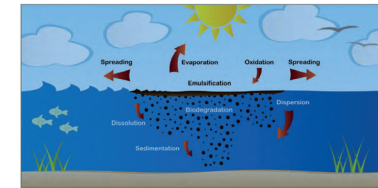
N.

WHAT

HOW

3.1

The combined effects of the various natural processes acting on spilled oil, are collectively known as 'weathering'.



Source: ITOPF Technical Information Paper, "Fate on marine oil spills"

Factors which determine whether or not the oil is likely to persist in the marine environment have to be considered together with the implications for response operations.

A very useful collection of documents and best practices about the oil pollution could be consulted on the website of ITOPF <https://www.itopf.org/knowledge-resources/documents-guides/technical-information-papers/> and ISPRA <https://www.isprambiente.gov.it/it/attivita/Crisi-Emergenze-ambientali-e-Danno/area-emergenze-ambientali-in-mare/pubblicazioni>.

3.2

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3.2

Group 1 oils					
A: *API > 45 (Specific gravity < 0.8)					
B: Pour point °C					
C: Viscosity @ 10-20°C: less than 3 CSt					
D: % boiling below 200°C: greater than 50%					
E: % boiling above 370°C: between 20 and 0%					
	A	B	C	D	E
Asgard	49	-28	2 @ 10°C	58	14
Arabian Super Light	51	-39	2 @ 20°C		
Cosack	48	-18	2 @ 20°C	51	18
Curlew	47	-13	2 @ 20°C	57	17
F3 Condensate	54	<-63	1 @ 10°C	81	0
Gippland	52	-13	1.5 @ 20°C	63	8
Hidra	52	-62	2.5 @ 10°C	60	11
Terengganu condensate	73	-36	0.5 @ 20°C	>95	0
Wolybutt	49	-53	2 @ 20°C	55	4
Gasoline	58		0.5 @ 15°C	100	0
Kerosene	45	-55	2 @ 15°C	50	0
Naphta	55		0.5 @ 15°C	100	0

Group 2 oils					
A: *API 35-45 (Specific gravity 0.8-0.85)					
B: Pour point °C					
C: Viscosity @ 10-20°C: between 4 Cst and semi-solid					
D: % boiling below 200°C: between 20 and 50%					
E: % boiling above 370°C: between 15 and 50%					
Low pour point <6°C					
	A	B	C	D	E
Arabian Extra Light	38	-30	3 @ 15°C	26	39
Azeri	37	-3	8 @ 20°C	29	46
Brent	38	-3	7 @ 10°C	37	33
Draugen	40	-15	4 @ 20°C	37	32
Dukhan	41	-49	9 @ 15°C	36	33
Liverpool Bay	45	-21	4 @ 20°C	42	28
Sokol (Sulphur)	37	-27	4 @ 20°C	45	21
Yao Negro	35	-5	23 @ 10°C	29	41
Umm Shaif	37	-24	10 @ 10°C	34	31
Zalum	40	-24	6 @ 10°C	36	33
Marine Gas oil (MGO)	37	-3	5 @ 15°C		
High pour point >5°C					
Arma	36	19	Semi-solid	25	30
Beatrice	38	18	32 @ 15°C	25	35
Bertulu	37	19	Semi-solid	24	34
Esraoas	34	10	9 @ 15°C	35	15
Sarir	38	24	Semi-solid	24	39
Statfjord	40	6	7 @ 10°C	38	32

Group 3 oils					
A: *API 17.5-35 (Specific gravity 0.85-0.95)					
B: Pour point °C					
C: Viscosity @ 10-20°C: between 8 CSt and semi solid					
D: % boiling below 200°C: between 10 and 35%					
E: % boiling above 370°C: between 30 and 65%					
Low pour point <6°C					
	A	B	C	D	E
Alaska North Slope	28	-18	32 @ 15°C	32	41
Arabian Heavy	28	-40	55 @ 15°C	21	56
Arabian Medium	30	-21	25 @ 15°C	22	51
Arabian Light	33	-40	14 @ 15°C	25	45
Bonny Light	35	-11	25 @ 15°C	26	30
Iranian Heavy	31	-36	25 @ 15°C	24	48
Iranian Light	34	-32	15 @ 15°C	26	43
Khafji	28	-57	80 @ 15°C	21	55
Sirri	33	-12	18 @ 10°C	32	38
Thunder Horse	35	-27	10 @ 10°C	32	39
Tia Juana Light	32	-42	500 @ 15°C	24	45
Trill	33	-9	14 @ 10°C	24	35
IFO 180	18-20	10-30	1,500-3,000 @ 15°C	-	-
High pour point >5°C					
Cabinda	33	12	Semi-solid	18	56
Coco	32	21	Semi-solid	21	46
Gamba	31	23	Semi-solid	11	54
Mandji	30	9	70 @ 15°C	21	53
Minas	35	18	Semi-solid	15	58

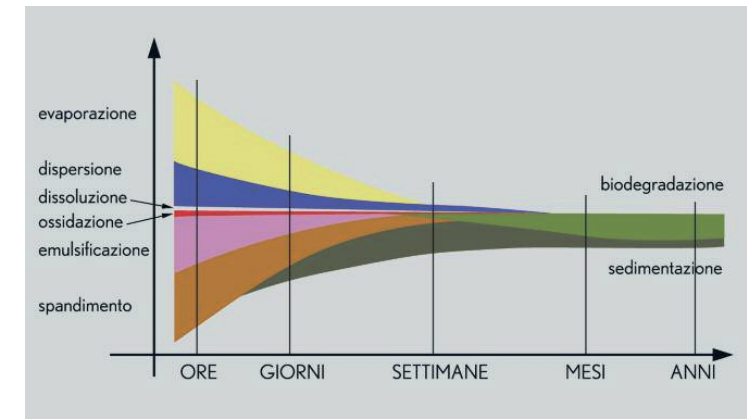
Group 4 oils					
A: *API <17.5 (Specific gravity >0.95) or					
B: Pour point >30°C					
C: Viscosity @ 10-20°C: between 1500 CSt and semi-solid					
D: % boiling below 200°C: less than 25%					
E: % boiling above 370°C: greater than 30%					
	A	B	C	D	E
Bachaquero 17	16	-29	5,000 @ 15°C	10	60
Boscan	10	15	Semi-solid	4	80
Orin	35	43	Semi-solid	10	54
Handil	33	35	Semi-solid	23	33
Mary	17	-21	7,000 @ 15°C	7	70
Nile Blend	34	33	Semi-solid	13	59
Pilon	14	-3	Semi-solid	2	92
Shengli	24	21	Semi-solid	9	70
Taching	31	35	Semi-solid	12	49
Tia Juana Pesado	12	-1	Semi-solid	3	78
Widuri	33	46	Semi-solid	7	70
IFO 380	11-15	10-30	5,000-30,000 @ 15°C		

Table 2: Example oils classified according to their \*API (American Petroleum Institute gravity). The colours of each group relate to Table 1 and to Figures 1, 2, 12 and 13. Generally, persistence when spilled increases with group number.

Source: ITOPF Technical Information Paper, "Fate on marine oil spills"

Weathering processes are strictly influenced by those properties, but in general terms, it can be said that the more time passes from the spill into sea, the greater the density, viscosity and persistence of the residual hydrocarbon mixture will be.

3.2



Source: ISPRA "Sversamento di idrocarburi in mare: stima delle conseguenze ambientali e valutazione delle tipologie d'intervento"

The original characteristics of hydrocarbons, together with the modifications that they undergo due to weathering, **determine the method of intervention to be implemented**. By way of example, light products, such as diesel and petrol, tend above all to evaporate and spread quickly and from an intervention point of view they rarely need a recovery action. The opposite counts for some crudes and heavy fuel oils, for which the rate of evaporation and spreading is very limited and it is therefore necessary to intervene directly for their containment and recovery.

**N.**

**WHAT**

**HOW**

Acquire information about the weather condition at the moment of the spill and an accurate forecast for the subsequent hours.

As shown before, weather has a great influence on the evolution of the oil in the sea and also affects the response operation and the proper choice of the best intervention strategy.

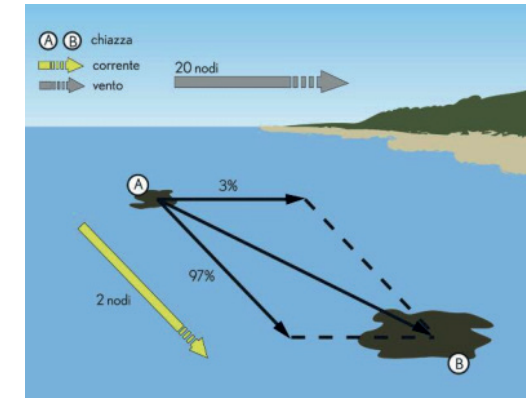
In particular, is necessary to gather information about:

- Wind (direction and speed);
- Surface currents (direction and speed);
- Atmospheric temperature;
- Water temperature;
- Cloud coverage;
- Sea state.

Take into account that wind and current have a great influence on the direction of the oil spill.

The movement of oil slicks is 3% determined by force of the wind (average value) and 100% by the strength of the currents. However, the extent of the wind's influence can vary according to the contact surface of the slick with the atmosphere, which depends on the chemical-physical characteristics of the hydrocarbons.

Official and institutional weather forecasting network (e.g. OSMER – Osservatorio Meteorologico Regionale <https://www.osmer.fvg.it/home.php?ln=> or Meteo Aeronautica Militare <https://www.meteoam.it/it/home>, or <https://nodc.ogs.it/geoportal/> and <https://shar-remed-northadriatic-geoportal.ogs.it/> for currents) but also other public websites offer today very accurate forecast and observation (e.g. Windy, Windfinder etc.)



Source: ISPRA "Sversamento di idrocarburi in mare: stima delle conseguenze ambientali e valutazione delle tipologie d'intervento"

**Wind Force: Beaufort Scale**

DESCRIPTIVE TERM	BEAUFORT NUMBER	LIMITS OF WIND VELOCITY		PROBABLE MEAN HEIGHT OF WAVES* in metres
		in knots	in m/sec	
Calm	0	<1	0 - 0.2	-
Light air	1	1 - 3	0.5 - 1.5	0.1
Light breeze	2	4 - 6	1.6 - 3.3	0.2
Gentle breeze	3	7 - 10	3.4 - 5.4	0.6
Moderate breeze	4	11 - 16	5.5 - 7.9	1.0
Fresh breeze	5	17 - 21	8 - 10.7	2.0
Strong breeze	6	22 - 27	10.8 - 13.8	3.0
Near gale	7	28 - 33	13.9 - 17.1	4.0
Gale	8	34 - 40	17.2 - 20.7	5.5
Strong gale	9	41 - 47	20.8 - 24.4	7.0
Storm	10	48 - 55	24.5 - 28.4	9.0
Violent storm	11	56 - 63	28.5 - 32.6	11.5
Hurricane	12	64 - +	32.7 - +	>14

**Sea State: Douglas Scale**

DESCRIPTIVE TERM	SEA STATE	WAVE HEIGHT
Calm (glassy)	0	0
Calm (rippled)	1	0 - 0.1
Smooth (wavelets)	2	0.1 - 0.5
Slight	3	0.5 - 1.25
Moderate	4	1.25 - 2.5
Rough	5	2.5 - 4
Very rough	6	4 - 6
High	7	6 - 9
Very high	8	9 - 14
Phenomenal	9	>14

4

4

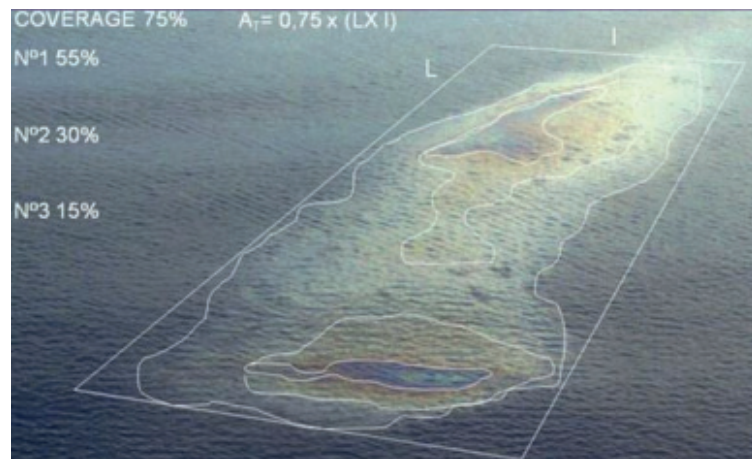
N.	WHAT	HOW															
	<p>Continue monitoring of the situation at sea with patrol boats and other ships potentially present in the area. It is essential to determine the distance of the slick from the coast to define the reaction time.</p> <p>The Master of the major Vessel of the Administration (like Coast Guard patrol boat) present in the zone of operation should be nominated On Scene Coordinator (OSC) and report the situation to the Local Operational Authority.</p>	<p>The designation of the OSC should be formalized using a message like the one in the <a href="#">SOP Annex 5</a>.</p>															
5	<table border="1"> <thead> <tr> <th>Distance Classes</th> <th>Distance from the Coast</th> <th>Available time for response operations at sea</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>&gt;50 miles</td> <td>One week</td> </tr> <tr> <td>2</td> <td>10 to 50 miles</td> <td>Some days</td> </tr> <tr> <td>3</td> <td>5-10miles</td> <td>One day</td> </tr> <tr> <td>4</td> <td>&lt;5 miles</td> <td>Few hours</td> </tr> </tbody> </table> <p><i>Source: ISPRA "Sversamento di idrocarburi in mare: stima delle conseguenze ambientali e valutazione delle tipologie d'intervento"</i></p>	Distance Classes	Distance from the Coast	Available time for response operations at sea	1	>50 miles	One week	2	10 to 50 miles	Some days	3	5-10miles	One day	4	<5 miles	Few hours	
Distance Classes	Distance from the Coast	Available time for response operations at sea															
1	>50 miles	One week															
2	10 to 50 miles	Some days															
3	5-10miles	One day															
4	<5 miles	Few hours															
	<p>In case of a huge spill in the northern Adriatic Sea, a semi closed basin in which the distance from the coast is always not so high, the speed to respond is crucial.</p>																

N.	WHAT	HOW
6	<p>Local Operational Authority has to Ask for <b>aerial assets</b> to monitor the situation from above.</p>	<p>Contact the administration that has the availability of some aerial assets near the zone of the spill. Otherwise, contact the National Operational Authority to arrange aerial surveillance ASAP.</p>
6.1	<p>Once Aerial Assets are in the zone of operations, ask to take some picture of the surface affected by the pollution.</p> <p>Then, analyze those pictures in order to assess extension and thickness of the slick that are essential information to estimate the amount and the volume of the spill.</p> <p>The analysis of the photographs taken during the inspection is a tool basis for estimating the extent and thickness of the patches. The thickness can be estimated through the color that the stain assumes by applying the Bonn Agreement Oil Appearance Code (BAOAC), color code developed within the framework of the Agreement for cooperation in dealing with pollution of the North Sea by oil and other harmful substances (Bonn 1983), that classifies the oil slicks in the sea according to the color, function of their thick.</p>	<p>Specialized aerial assets (like the ATR 42 used by Italian Coast Guard) often have installed advanced remote sensing devices, such as SLAR (side looking airborne radar) and multispectral sensors, useful for evaluating the situation from above.</p>

**BAOAC – Bonn Agreement Oil Appearance Code**

No.	Oil appearance description	Oil slick thickness [µm]	Spill volume [m3/km2]
1	Sheen	0.04 – 0.30	0.04 – 0.30
2	Rainbow	0.30 – 5.00	0.30 – 5.00
3	Metallic	5.00 – 50.00	5.00 – 50.00
4	Discontinuous true color	50.00 – 200.00	50.00 – 200.00
5	True color	> 200.00	> 200.00

6.1



N.

WHAT

HOW

**Aerial Detection Log**

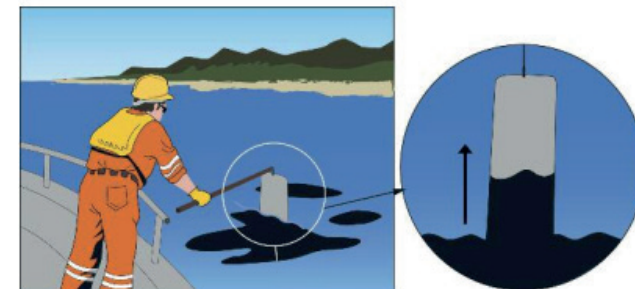
REPORTING AUTHORITY		AIRCRAFT REG	MISSION No	CAPTAIN	CO PILOT	OPERATOR	OBSERVER	DAY	DATE	MONTH	YEAR					
FLIGHT TYPE		ROUTE / AREA		TIME OVER THE SEA DAY			TIME OVER THE SEA NIGHT			TOTAL TIME OVER THE SEA						
				hrs			mins			hrs						
No	AREA CODE	TIME UTC	POSITION		DIMENSIONS		AREA COVER %	OILED AREA Km²	OIL APPEARANCE COVERAGE (PERCENTAGE, %)					MINIMUM VOLUME m³	MAXIMUM VOLUME m³	COMBAT Y / N
			LATITUDE NORTH	LONGITUDE EAST/WEST	LENGTH Km	WIDTH Km			1	2	3	4	5			
No	POLL TYPE	DETECTION					PHOTO Y / N	VIDEO Y / N	FLIR Y / N	WEATHER				REMARKS		
		SILAR	IR	UV	VIS	MW				WIND	CLOUD	VIS	SEA		WX	
No	REMARKS	OIL APPEARANCE TABLE														
		OIL APPEARANCE DESCRIPTION	MINIMUM VOLUME / Km²	MAXIMUM VOLUME m³ / Km²												
		1 SHEEN	0.04	0.30												
		2 RAINBOW	0.30	5.00												
		3 METALLIC	5.00	50.0												
		4 DISCONTINUOUS TRUE COLOUR	50.0	200												
		5 TRUE COLOUR	200	>200												

6.2

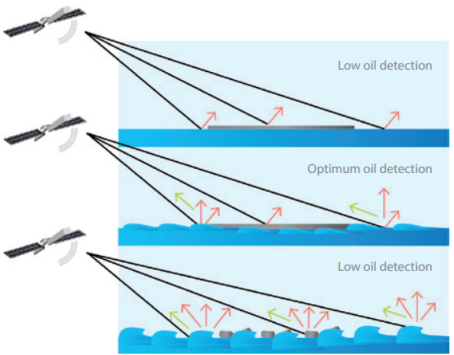
Source: University of Ljubljana – Faculty of Maritime Studies and Transport

When it is not possible to obtain aerial pictures due to the unavailability of assets or due to fog or other bad conditions, the evaluation of the thickness of the slick can also be made using the technique of the plexiglass sheet directly by the sea, applying the following formula: Thickness = volume/surface.

6.3





N.	WHAT	HOW
6.4	<p>Aerial monitoring could be done also by satellite systems, such as <b>Clean Sea Net</b>. In particular, it is recommended to acquire SAR (synthetic aperture radar) images to determine the extension of the slick. The SAR radar elaborates a dark image resulting from the flattening of capillary waves and ripples caused by surface wind, while the surface covered by the oil slick will result flattened. So the system works if the sea is not calm.</p>  <p>Source: EMSA website</p>	<p>CleanSeaNet system could be activated by National Operational Authority through the CECIS Marine platform.</p> <p>The affected Country could send a request for assistance to the ERCC through the CECIS Marine.</p>

Nevertheless, the system is not able to determine if the flattening is caused by an oil slicks or other causes (algae blooms, surface currents, calm waters etc.) so an on site evaluation is necessary.

6.4



Similar data can be obtained by coastal radar and SLAR systems.

7 On the basis on the information collected, place the contingent situation in one of the following stages:

N.	WHAT	HOW
	<p><b>OPERATING SITUATIONS</b></p> <p><b>Tier 1:</b> mild – medium entity. Affects port, territorial sea and ZPE where it does not represent a concrete threat to coastal areas and do not represent a risk to human health and socio-economic activities and do not have large proportions and do not represent a serious risk to the environment and have no possibility to degenerate. Copable with the resources present in the area. In this case, the pollution must be treated at the Local Oil Pollution Planning level.</p> <p><b>Tier 2:</b> serious entity. Ppollution or potential pollution, even of small and medium size, represents a real threat to the coast, especially if you are near areas of high intrinsic value (Marine Protected Areas, Natura 2000 network sites, fish or mussels farms -maricultures, touristic areas), islands and archipelagos. It is declared when it is not possible to intervene with only the resources of the local planning. <i>At this level, in Italy it is mandatory to declare the state of Local Emergency by the Maritime Authority.</i> At this level the pollution must be treated by the provisions of the National Contingency Plan. This is also the level in which an International – Subregional plan, such as the NAMIRS Contingency Plan should be applied, as the pollution involves the seawaters of more than one member State or for its dimensions, position, weather conditions etc., it threatens to involve the seawaters/coasts of another member state.</p> <p><b>Tier 3:</b> very serious entity. This is the situation of very serious pollution for the dimensions that do not allow the situation to be addressed with local or national resources and which requires other resources. <i>At this level, in Italy it is mandatory to declare the state of National Emergency by the Government.</i></p>	
7.1		
7.2	<p>After the activation of local and national contingency plan, if it is clear that the Country is not able to face the situation with the available resources, or if the pollution threatens to involve the seawaters/coasts of another member state, continue with the next steps in order to activate the NAMIRS contingency plan.</p>	<p>The Local Operational Authority has to inform the National Operational Authority about the need for the activation of the NAMRIS plan.</p>

## PHASE 2- NOTIFICATION AND CONSULTATION

In this Phase, the NAMIRS plan is still not activated. The Operational Authority of the Country affected by marine oil pollution severity of which surpasses the response capabilities of the Party, has to notify other Parties of its intention to activate the Plan, if in the opinion of its Operational Authority, the pollution threatens to affect or has already affected:

- the area of responsibility or the area of interest of another Party;
  - the territorial sea, coasts or other related interests of the Party that activates the Plan.
- In all cases outlined above, the Plan shall be activated after consulting the Operational Authorities of the other Parties.

N.	WHAT	HOW
1	<p>Send all the data collected to other NAMIRS partners in order to share the information. Notification shall be transmitted to the Operational Authorities of the other Parties through the designated National Contact Point. National Contact Points are responsible for receiving reports on marine oil pollution incidents and for transmitting this information to their respective Operational Authorities and other interested parties within the country. On the very initial steps, the sharing of the information could be done through direct telephone calls between the National Contact Points. It is important that every communication has to be performed in English or other language commonly understood by the contact points.</p>	<p>The list of National Contact Points and their relevant contact details are given in <a href="#">SOP Annex 1</a>.</p>

N.	WHAT	HOW
1.1	<p>For the exchange of information concerning pollution incidents, the Parties shall use the “pollution reporting system” (POLREP). The POLREP is divided into three parts:</p> <p>Part I: <b>POLWARN</b> is an initial notice (a first information or a warning) of a pollution incident.</p> <p>Part II: <b>POLLINF</b> is a detailed supplementary report to Part I.</p> <p>Part III: <b>POLFAC</b> is used for requesting assistance from other Parties and for defining operational matters related to such assistance.</p>	
2	<p>In the initial stage, the National Operational Authority has to properly inform other Countries about the current situation by the POL-WARN message.</p>	<p><a href="#">See SOP Annex 2 Form of POL-WARN message</a></p>
3	<p>Consultations should take place at the level of the National Operational Authorities of the member Countries, after receiving the POL-WARN message. At this stage the affected Country has to consult other Parties concerned clearly indicating the extent of the planned response measures and of the assistance that might be required.</p>	<p>Formal or informal communications between National Contact Points or Operational Authorities.</p>

N.	WHAT	HOW
3.1	<p>However, in case of emergency when the situation does not permit such consultations, the affected Party may activate the Plan without prior consultations.</p>	
4	<p>Situations in which the type and extent of the required assistance have not yet been determined, the Party who takes the decision to activate the Plan shall utilize line 53 of the POLLINF part of the POLREP message to inform other Parties that the Plan has been activated.</p>	<p><a href="#">See SOP Annex 2 Form of POL-WARN message</a></p>
5	<p>Prior to activating the Plan, the Operational Authority shall alert other relevant Authorities in its own country, in accordance with the provisions of its Local and National Contingency Plans.</p>	<p>Convene a local Crisis Unit (Support Team) with experts and Authorities, if the Local planning provide for it (<a href="#">see SOPs Annex 6</a>).</p>
6	<p>Activate the National On Scene Coordinator (NOCS).</p>	

### PHASE 3 – ACTIVATION OF THE PLAN – NOTIFICATION OF ACTIVATION

In this Phase, the NAMIRS plan is finally activated.

After the consultations with other Countries (or without this formality, when it is not possible to respect this step), the Operational Authority of the Country concerned may take the decision to activate the plan.

After taking the decision to activate the Plan, the Operational Authority of the Party concerned, will assume the role of **Lead Authority** (see the General Framework for further information about duties and responsibilities of the Lead Authority, NOSC, SOSC, ERC, JERC and Support Teams).

N.	WHAT	HOW
1	Lead Authority has to:	
1.1	notify the Operational Authorities of the other Parties, through their designated national Contact Points that the Plan has been activated;	The notification should be done using the POLLINF message form, specifying in line 53 that the plan has been activated.
1.2	activate its own ERC which shall assume the role of JERC;	
1.3	activate its own Support Team, composed by Administration/Experts as needed according to the actual situation;	An example of the composition of a Support Team (Crisis Unit) is given in <a href="#">SOP Annex 6</a> .
1.4	designate the SOSC who shall, in liaison with the Lead Authority and his/her Support Team, formulate the strategy for dealing with the incident and evaluate the need for assistance from other Parties. The SOSC shall initiate phases IV, V and VI of the response respectively.	

	After the activation of the Plan, the SOSC have the overall responsibility for all decisions and actions taken in order to combat the pollution and to mitigate its consequences, and for the coordination of JRO. The SOSC, working in liaison with the Lead Authority, shall have Operational Command over JRO.	
2	Each National Operational Authority of the other Parties, if agrees to the activation of the plan, should alert their own:	Giving the acknowledge to the <a href="#">POLLINF message</a> .
2.1	NO SC, which have to cooperate with the SOSC;	
2.2	ERC, which have to cooperate with the JERC;	
2.3	Support Teams, which have to cooperate with the SOSC/NOCS;	

## PHASE 4 – REQUEST FOR ASSISTANCE

Following the activation of the Plan, the Lead Authority may request assistance from the other Parties.

The request for assistance, on the basis of the SOSC's requirements and advice, shall be sent following the activation of the Plan, by the Lead Authority to the Operational Authorities of the other Parties in accordance with the procedure outlined in POLFAC message and taking into consideration the results of previous consultations with the Operational Authorities of the other Parties.

In these cases, a good strategy to simplify the communications and the management of the subsequent Joint Response Operation (JRO), consist in designate one or more Liaison Officer, sent to the Lead Party by the Operational Authority of the assisting Party in order to be integrated in the staff of the SOCS. The duty of the Liaison Officer shall be to provide the necessary information on the resources rendered as assistance and to facilitate communication with his/her respective NOSC, ERC, Support and strike teams and self-contained units taking part in JRO.

N.	WHAT	HOW
1	The Lead Authority may require assistance in the form of:	POLFAC message form in <a href="#">SOP Annex 4</a> it shall contain a detailed description of the kind of assistance required and the purpose for which personnel, equipment, products and/or other resources will be used.
1.1	experts in various fields of oil pollution response;	e.g. ATRAC or Contact University of Ljubljana – Faculty of Maritime Studies and Transport to request the activation of the simulator “Piscines 2”.
1.2	trained response personnel and, in particular, strike teams;	

N.	WHAT	HOW
1.3	specialized pollution response (pollution combating) equipment;	A list of available equipments and antipollution specialized Vessel and their characteristics is shown in Annex K of the Plan ( <i>provided by University of Lubiana</i> ). <a href="#">See SOP Annex 7</a> . However, the Lead Authority may also choose to request equipment from EMSA via CECIS Marine platform.
1.4	specialized oil spill treatment products;	
1.5	other resources, including in particular, self-contained units such as ships and aircraft; in this step it is important to keep in mind the importance of the availability of <b>tankers or barges</b> to store the oil collected by the sea. Knowing the volume of the spill is crucial to determine the storage capacity needed to front the situation.	
2	Party receiving a request for assistance shall immediately acknowledge receipt and communicate what kind of assistance it could give, specifying the time needed for the deployment of assets and their costs.	
2.1	The Party receiving a request for assistance shall consider it and endeavor to offer its assistance to the requesting Party within the shortest possible delay, taking into consideration that it should not deplete its own national resources beyond a reasonable level of preparedness.	

N.	WHAT	HOW
2.2	Any response personnel and/or means rendered as assistance within the framework of the Plan will operate under the overall Operational Command of the SOSOC and the Lead Authority. However, their respective NOSOCs shall retain Operational Control over them.	
2.3	The Party receiving a request for assistance shall designate one or more <b>Liaison Officers</b> who can be sent to the Lead Country.	
3	The Lead Authority has to convene the <b>Support Team/Crisis Unit</b> composed also by Liaison Officers of assisting Countries and partners in order to manage the event and to coordinate the activities of the specialized anti-pollution units. The personnel and other resources of the assisting Parties shall operate under direct Operational Control and Tactical Command of their respective NOSOCs and their unit commanders or team leaders.	
4	The SOSOC with the support of the Crisis Unit has to collect every information about the oil spill and the available equipment/vessels to respond to the event.	

### PHASE 5.1 – JOINT RESPONSE OPERATIONS AT SEA

According to the NAMIRS Plan, Joint Response Operations (JRO) mean all pollution response operations in which personnel, equipment, products and/or other resources, of at least two Parties to the Plan are involved.

The main objectives of Joint Response Operations (JRO) at sea are to stop the spillage of the pollutant from the source, to restrict its spreading and movement and to remove as much pollutant as possible from the sea surface before it reaches the shores or other sensitive areas of one of the Parties.

Response to a marine oil pollution incident within the area of responsibility and/or area of interest of any Party shall be conducted in accordance with the provisions of the NCP of the Party concerned/Lead Authority, under the overall Operational Command of the Lead Authority exercised through the SOSOC.

Deciding on the response strategy to be applied in each particular pollution incident and the planning of specific response operations shall be the responsibility of SOSOC.

The Lead Authority shall appoint an officer responsible for receiving the personnel, equipment, products and/or other resources from assisting Parties and for facilitating their participation in JRO. The responsibilities of this officer shall start at the moment of arrival into the country of resources and continue until the moment of their departure from the country. This officer shall closely collaborate with the Liaison Officer of the assisting Party.

N.	WHAT	HOW
1	Lead Authority has to call the attention of ALL SQUAD who intervene to keep a safe distance from the spill until technical instructions have been received from experts and specialist personnel or in any case if they are not equipped with suitable personal protective equipment (masks, breathing apparatus, etc.).	
2	If a ship is involved in the oil spill, and if there are the conditions to reach in safety the vessel, Lead Authority has to Activate the <b>Team of Experts</b> and arrange a mean of transport to send them on board the ship to evaluate the condition of the unit and the situation at sea.	By Helicopter or Patrol boats or other naval/aerial assets. The composition of the Team of Experts must be agreed within the participants in the NAMIRS project specifically trained for aerial operations, and must always be the same for any type of accident.

N.	WHAT	HOW
2.1	<p>In case of huge amount of oil in proximity of the affected vessel, consider the opportunity to prefer an aerial asset instead of a naval unit to reach the ship for the evaluation.</p> <p>In this case, the crew of the helo must be properly briefed about the operations that must be conducted and also about:</p> <ul style="list-style-type: none"> <li>• The risks of ignition caused by the electricity generated by the rotors and conveyed by the winch, that has to be safely discharged in the sea water in a safe zone sufficiently far from the oily waters.</li> <li>• The eventual displacement of booms and other containment devices around the ship. In this case, the approach of the helicopter must be done trying to avoid them in order to prevent the lifting of the devices from the water and their subsequent possible damages or the leakage of oil outside the containment area.</li> </ul>	



Picture taken during the NAMIRS Exercise

N.	WHAT	HOW
3	<p>A Liaison Officer of the SOSC should be sent to one of the vessels involved in Rec-Oil activities to monitor the situation and report constantly to the SOSC.</p>	
4	<p>As stated in phase 1.2 point 5, the Master of the major Vessel of the Leading Party (like Coast Guard patrol boat) present in the zone of operation, should be nominated On Scene Coordinator (OSC) and report constantly the situation to the SOSC.</p> <p>It has also the duty to coordinate the activity of all the other vessel/aircrafts involved in the REC-Oil operations, according to the orders given by the SOSC.</p> <p>It is important that all the communications should be done in English or in a language commonly understood by the operators.</p>	<p>The designation of the OSC should be formalized using a message like the one in the <a href="#">SOP Annex 5</a>.</p>
5	<p>In the event that REC-Oil operations at sea are unable to avoid the stranding of the pollutant, Joint Response Operations on shore must be activated in order to protect coastal areas and other vulnerable resources from the impact of pollutants and to remove the pollutants that have reached the coast, which will then be treated and disposed of.</p> <p>On shore operations will be conducted/coordinated by the competent national authorities of the affected Party using its national resources and according to the relative rules in force. If the national resources of the affected Party are not sufficient, the Party may request from another Party/other Parties to provide all possible assistance in terms of resources and specialized personnel.</p>	

## PHASE 5.2 - INTERVENTION STRATEGY

The following pages are meant to be a very simplified list of the best available techniques for the intervention on an oil spill. For a better view on the BAT, consult the ITOPF (in English) and ISPRA (in Italian) manuals at the following links

<https://www.itopf.org/knowledge-resources/documents-guides/technical-information-papers/> , <https://www.isprambiente.gov.it/it/pubblicazioni/quaderni/ricerca-marina/quaderni-delle-emergenze-ambientali-in-mare>.

### INTERVENTION TECHNIQUES

The following considerations concern, in particular, the techniques to be adopted in the event of oil pollution.

The fundamental need that arises is to want to protect everything that surrounds the area of the accident, including the coasts that may be affected by the polluting source.

It is evident that this need cannot be treated as a static situation, and therefore, in evaluating the interventions to deal with the accident, it will also be necessary to take into account a series of variables, which, by way of example, may depend on the size of the phenomenon, the speed of movement, the nature of the polluting product that characterizes it, as well as the climatic conditions.

### INTERVENTION TECHNIQUES IN WATER

The water anti-pollution techniques can be substantially of two kinds: **mechanical** or **chemical**, or through the use of particular substances.

The intervention strategies that can be adopted in case of oil spills at sea are intended to prefer the containment and subsequent removal of the pollutant from the marine environment. In this perspective, priority is given strategies involving the application of various mechanical methods, such as the use of skimmers, overflow pumps or methods of oil/water separation. Subsequently, the use of products with an absorbent action can be taken into consideration and, only as extrema ratio, the use of products with a dispersing action.

### MECHANICAL TECHNIQUES

#### 1. BOOMS

Booms come in a variety of sizes, materials and designs in order to meet the demands of these differing situations and environments. They can range from small, inexpensive, lightweight models for manual deployment in harbours, to large, expensive and robust units for offshore use, which may require the use of reels, cranes and sizeable vessels to handle them.

Booms are available in a variety of lengths with couplings to allow sections to be combined to the desired overall length. Couplings also provide towing and anchoring points. In addition to reels, a variety of ancillary equipment such as towing bridles, air blowers and anchors may be required.

The most important characteristic of a boom is its oil containment or deflection capability, determined by its behaviour in relation to water movement. All booms normally incorporate the following features to enhance this behaviour:

- freeboard to prevent or reduce splash-over;
- sub-surface skirt to prevent or reduce escape of oil under the boom;
- flotation in the form of air, foam or other buoyant material;
- longitudinal tension member (chain or wire) to withstand forces from winds, waves and currents;
- ballast to maintain the vertical aspect of the boom.

The majority of boom designs fall into two broad categories:

**Curtain Booms** – providing a continuous sub-surface skirt or flexible screen supported by an air or foam-filled flotation chamber usually of circular cross-section (Figures 2a and 2c).

**Fence Booms** – generally with a flat cross-section held vertically in the water by integral or external buoyancy, ballast and bracing struts (Figure 2b).

Shore-sealing or beach-sealing booms are also available whereby the skirt is replaced by water-filled chambers allowing the boom to settle on an exposed shoreline at low tide (Figure 2d). Fire boom is specifically constructed to withstand the high temperatures generated by burning oil and can be of either fence or curtain design with the associated abilities and limitations of these two designs in containing oil.

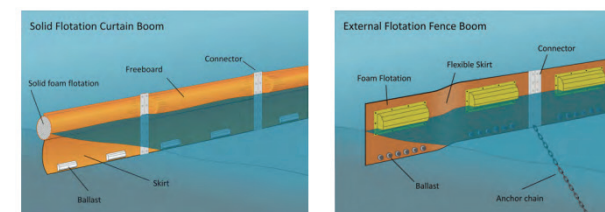


Figure 2a: A solid flotation curtain boom with external ballast. Figure 2b: An external flotation fence boom with external flotation and ballast. Mooring points are located at intervals along its lower length.

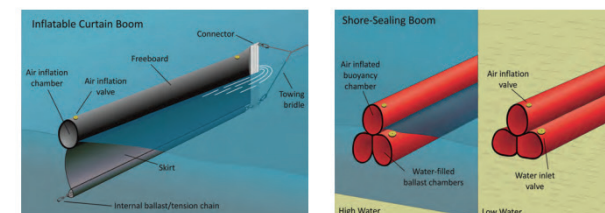
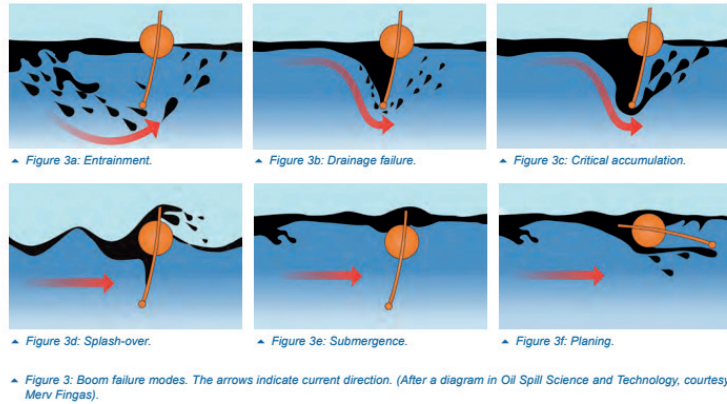


Figure 2c: An inflatable curtain boom with a combined ballast and tension chain fitted in an integral pocket attached to the bottom of the skirt. Figure 2d: Intertidal shore-sealing boom. Upper air inflation pocket to allow flotation, lower water filled pockets to provide ballast when floating and to ensure a good seal with the substrate.





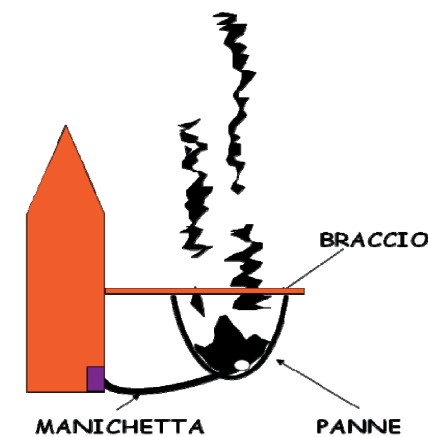
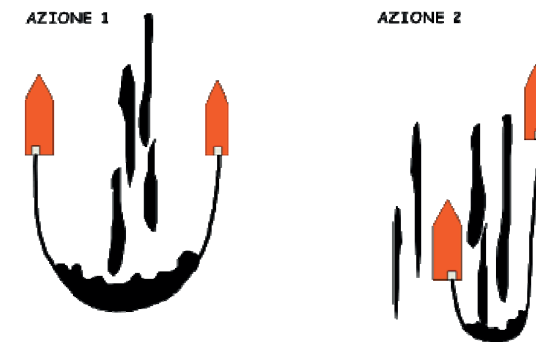
Type of Boom	Flotation Method	Storage	Wave Following Property	Moored or Towed?	Ease of Cleaning	Relative Cost	Preferred Use
Curtain Boom	Inflatable	Compact when deflated	Good	Both	Straightforward	High	Inshore or offshore
	Solid foam	Bulky	Reasonable	Moored	Easy / Straight-forward	Mid-range to Low	Sheltered inshore waters e.g. harbours
Fence Boom	External foam floats	Bulky	Poor	Moored	Difficult/Medium; oil can become trapped behind external flotation or in the junctions of the chambers	Low	Sheltered waters (e.g. ports, marinas)
Shore-Sealing Boom	Inflatable upper chamber, lower chambers water filled	Compact when deflated	Good	Moored	Medium; oil can become trapped in junction of the chambers	High	Along sheltered intertidal shores (no breaking waves)

Table 1: Characteristics of common boom types.

Booms are available in a variety of lengths with couplings to allow sections to be combined to the desired overall length. Couplings also provide towing and anchoring points. In addition to reels, a variety of ancillary equipment such as towing bridles, air blowers and anchors may be required.

The most important characteristic of a boom is its oil containment or deflection capability, determined by its behaviour in relation to water movement. All booms normally incorporate the following features to enhance this behaviour:

- freeboard to prevent or reduce splash-over;
- sub-surface skirt to prevent or reduce escape of oil under the boom;
- flotation in the form of air, foam or other buoyant material;
- longitudinal tension member (chain or wire) to withstand forces from winds, waves and currents;
- ballast to maintain the vertical aspect of the boom.



The majority of boom designs fall into two broad categories:

**Curtain Booms** – providing a continuous sub-surface skirt or flexible screen supported by an air or foam-filled flotation chamber usually of circular cross-section (Figures 2a and 2c).

**Fence Booms** – generally with a flat cross-section held vertically in the water by integral or external buoyancy, ballast and bracing struts (Figure 2b).

Shore-sealing or beach-sealing booms are also available whereby the skirt is replaced by water-filled chambers allowing the boom to settle on an exposed shoreline at low tide (Figure 2d). Fire boom is specifically constructed to withstand the high temperatures generated by burning oil and can be of either fence or curtain design with the associated abilities and limitations of these two designs in containing oil.

### Common uses of booms

Since the static encircling method of the areas affected by the pollution is suitable for containing and/or limiting the effects of hydrocarbon pollution, at the moment the most widely used interventions are those involving dynamic containment and recovery operations. It allows you to move quickly within the area affected by the pollution, thus being able to adapt to changes in currents and winds; moreover, it involves a lower use of barriers. The implementation of this concept is based on the combined use of vessels, boats, skimmers, barriers and storage units.

There are basically two possible configurations, J and U with the possibility of a third more complex but more effective V-shaped system. Nothing prevents the simultaneous use of multiple configurations 1.

Everything is better represented by the following diagrams which allow you to view the units required according to the chosen configuration.

### Other uses of booms

In addition to the dynamic collection, as illustrated above, and the static containment function, however valid in certain circumstances and in the absence of other possibilities, the booms can also be used as:

**1. Diversion:** This application may be adopted along the coastline in situations such that there is a suitable collection site for the oil on the coast so that it can be collected by skimmers or sludge pumps or other mechanical means. It allows, with the sacrifice of a limited portion of the coast, to mechanically recover adequate quantities directly on the shoreline.

**2. Protection:** as a preventive measure to protect certain structures or sites of particular importance.

Attention: the barriers have some operational limitations, considering the effects of the waves (so-called Splash-over, i.e. the passage of oil above the barrier itself), wind and current (so-called Underflow, i.e. the passage of the below the barrier in the presence of strong surface currents). Therefore, when you decide to use them, it is important to identify the ones that are best suited in terms of size and strength to the meteorological characteristics of the place where they will be employed.

## 2. THE SKIMMERS

Skimmers are used for the mechanical harvesting of oil from the sea surface. Their effectiveness is directly linked to certain parameters which are the thickness of the surface layer of the polluted marine area, the viscosity of the oil, its degree of emulsification, sea conditions and storage capacities.

There are different types and shapes of skimmers. They can be divided into mechanical skimmers and oleophilic skimmers. The former are based on the fluidity properties of hydrocarbons and on the difference in density between the polluting product and sea water.

Fall into this category:

- weir skimmer: the weir is placed below the surface of the water so as to allow the hydrocarbons to be discharged by gravity into a recovery well from where they are pumped for storage;
- vortex skimmer: a rotor creates a whirlpool which concentrates the hydrocarbons in the center of the vortex where they are pumped for their storage.
- the oleophilic skimmers on the contrary, they are based on the principle that certain materials have a greater affinity for hydrocarbons than for water, as the name suggests. Among them there is stainless steel, aluminum, plastic materials such as polypropylene and polyurethane.

Furthermore, an important distinction is made between the different types used according to the moving surface to which the hydrocarbons adhere. We will have like this:

- disc skimmers: these are devices which bring a certain number of stainless steel or aluminum discs into contact with the hydrocarbon which tends to adhere to their surface. The discs, in turn, precisely by virtue of their rotation, tend.

Skimmer	Recovery rate	Oils	Sea state	Debris	Ancillaries	
Disc	Dependent on number and size of discs. Tests show grooved discs can be highly effective.	Most effective in medium viscosity oils.	In low waves and current can be highly selective with little entrained water. However, can be swamped in choppy waters.	Can be clogged by debris.	Separate power pack, hydraulic and discharge hoses, pump and suitable storage required.	
Rope mop	Dependent on number and velocity of ropes. Generally low throughput.	Most effective in medium oils although can be effective in heavy oil.	Very little or no entrained water. Can operate in choppy waters.	Able to tolerate significant debris, ice and other obstructions.	Small units have built in power supply and storage. Larger units require separate ancillaries.	
Oleophilic	Drum	Dependent on number and size of drums. Tests show grooved drums are more effective.	Most effective in medium viscosity oils.	In low waves and current can be highly selective with little entrained water. However, can be swamped in choppy waters.	Can be clogged by debris.	Separate power pack, hydraulic and discharge hoses, pump and suitable storage required.
	Brush	Throughput dependent on number and velocity of brushes. Generally mid-range.	Different brush sizes for light, medium and heavy oils.	Relatively little free or entrained water collected. Some designs can operate in choppy waters, others would be swamped in waves.	Effective in small debris but can be clogged by large debris.	Separate power pack, hydraulic and discharge hoses, pump and suitable storage required.
	Belt	Low to mid-range.	Most effective in medium to heavy oils.	Can be highly selective with little entrained water. Can operate in choppy waters.	Effective in small debris but can be clogged by large debris.	Can deliver oil directly to storage at the top of the belt. Ancillaries required to discharge from a vessel to shore.
	Vacuum/suction	Dependent upon vacuum pump. Generally low to mid range.	Most effective in light to medium oils.	Used in calm waters. Small waves will result in collection of excessive water. Addition of a weir more selective.	Can be clogged by debris.	Vacuum trucks and trailers are generally self-contained with necessary power supply, pump and storage.
Non-Oleophilic	Weir	Dependent upon pump capacity, oil type etc. Can be significant.	Effective in light to heavy oils. Very heavy oils may not flow to the weir.	Can be highly selective in calm water with little entrained oil. Can be easily swamped with increase in entrained water.	Can be clogged by debris although some pumps can cope with small debris.	Separate power pack, hydraulic and discharge hoses, pump and storage. Some skimmers have built-in pumps.
	Belt	Low to medium.	Most effective in heavy oils.	Can be highly selective with little entrained water. Can operate in choppy waters.	Effective in small debris. Clogged by large debris.	As for oleophilic belt skimmer.
	Drum	Mid range.	Effective with heavy oils.	Can be highly selective in calm water with little entrained oil. However, can be swamped in waves.	As for weir skimmer.	As for weir skimmer.

Source: ITOPF Technical Information Paper, "USE OF SKIMMERS IN OIL POLLUTION RESPONSE"

	Dependence of oil-skimming efficiency on wave height		Dependence of oil-skimming on the viscosity of oil	
	Wave height [m]	Efficiency [%]	Viscosity [cP]	Efficiency [%]
Threshold	0.00	100	0	85
	0.50	100	3,000	70
	1.00	0	10,000	5
Oleophilic	0.00	100	0	10
	0.80	100	500	40
	1.30	50	1,500	90
	1.80	0	2,500	60
			5,000	10
Vacuum	0.00	100	0	0
	0.60	100	2,500	60
	1.10	50	5,000	50
	1.80	25	10,000	40
	2.90	0		
Mechanical	0.00	100	0	0
	0.60	100	1,000	20
	1.30	50	5,000	40
	2.00	0	10,000	90
Belt	0.00	100	0	0
	0.60	100	1,000	20
	1.30	50	5,000	40
	2.00	0	10,000	90

Normally is used the centistokes [cSt] as the unit of viscosity. The table report the viscosity in centipoise [cP] and the conversion would be as follows: [cSt] = [cP] / specific gravity.

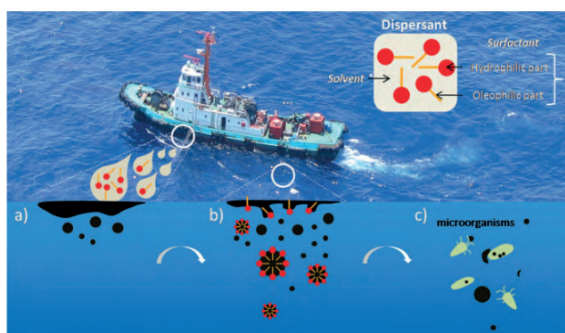
Source: University of Ljubljana - Faculty of Maritime Studies and Transport

## CHEMICAL TECHNIQUES: DISPERSANTS AND ABSORBENTS

### 1. THE DISPERSANTS

*Each Country has its own policy about the use of this kind of method, reported in its National Contingency Plan. In Italy, for example, the use of dispersants is permitted only and exclusively with the prior authorization of the Ministry of the Environment which will evaluate their use in terms of coast protection and marine environment safeguard.*

The concept that substantiates the use of dispersants in the event of pollution is totally different from those that emerged previously. In this case, in fact, it is not a question of actively recovering the oily stain in the sea or in any case limiting its expansion but on the contrary, we try to disperse it and then rely on the self-purifying action carried out by the sea, light and wave motion which tends, over time, to degrade the stain.



Source: ITOPF Technical Information Paper, "USE OF DISPERSANTS TO TREAT OIL SPILLS"

Dispersants are compounds which have surface-active agents which tend to reduce the surface tension between the hydrocarbons and the sea water. The result to be achieved is to reduce the oily spot into very small droplets which are dispersed very rapidly in the water mass precisely due to the movement of the latter.

There are, therefore, two distinct phases: the first, in which the agent "disperses" the stain and a second in which it mixes it with a rapid decrease in the concentration of hydrocarbons within the water column which is thus brought to a minimum level.

There are different types of dispersants:

- conventional: they consist of solvents and a mixture of emulsifiers and are used pure: they generally have good compatibility with oil;
- concentrates: they are mixtures of emulsifiers, wetting agents and oxygenated solvents. These contain more active substances than the previous ones and are therefore more effective in their action.

The possibility of dispersion mainly depends on their pour point and their viscosity at sea water temperature. It is evident how the state of the sea, its temperature and salinity influence in this sense.

Dispersants should therefore only be used in the first hours of pollution, from four to about eight hours after the spill, precisely because of the high volatility of hydrocarbons. The use of dispersants on the remaining heavy (more viscous) parts, in fact, would simply cause them to sink without any dispersion effect.

The dispersant could be sprayed from vessels or from aerial assets (faster).

Their use should be limited to those of an approved type after having verified their level of toxicity on living organisms. Toxicity which, although sometimes very low, is always present and must therefore be correctly evaluated when this fight system is used.

In the light of the above, the intervention with dispersants near the coast becomes particularly delicate. In summary, it can be said that this is advisable where there are sandy, gravelly and pebbly shores where the energy of the long sea is weak or where the coasts are rocky but protected from the sea and the wind.

In fact, in these cases, where hydrocarbons can remain for a long time, the use of dispersants can help eliminate them if carried out at high tide.

On the other hand, it is **not recommended in areas particularly exposed to the sea and the wind where the same disruptive action of the agents will help to largely remove the damage caused by a possible oily stain.** The same considerations in the case of closed environments such as estuaries, coastal marshes where the water exchange is insufficient and therefore it is advisable to use means which do not further aggravate the damage caused by the hydrocarbon.

A useful instrument to know how to employ the dispersants is the "Guidelines for the use of dispersants for combating oil pollution at sea in the Mediterranean region" whose 2011 edition is published on REMPEC's Website: <https://www.rempec.org/en/our-work/pollution-preparedness-and-response/response/tools/use-of-dispersants>.

## 2. ABSORBENTS

Absorbents, as the word itself suggests, absorb the oil floating on the surface of the sea and then, due to their low density, continue to float so as to allow their collection by mechanical means. They can be:

- natural products such as straw, sawdust and pumice powders;
- synthetic products such as polyurethane foam rubber and polypropylene.

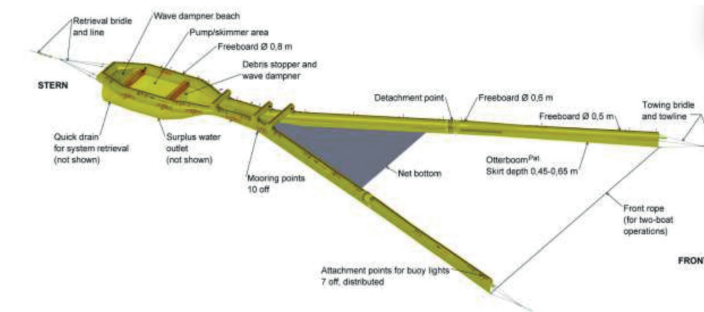
**They are particularly suitable** in the case of small spills and where it is not possible to intervene, for technical or environmental reasons, with other mechanical collection systems.

The main properties of these products are buoyancy, selectivity, absorption capacity, consistency of agglomerates, their possibility of recycling and easy disposal. It should be noted that, being the latter very subject to wind and current, they present the risk of being dispersed if not used correctly.

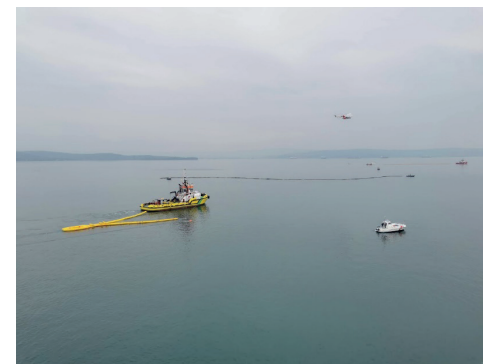
## OTHER DEVICES

A modern approach to the REC-OIL operations is represented by **combined recovery system** such as the **"NOFI Current Buster"** which is a **high-speed** oil containment and recovery system, designed to be operated from a single vessel only. The system consists of an inflatable boom with an integrated oil water separator and a temporary storage tank of 40m<sup>3</sup>. It does not require continuous pumping and is to be emptied when full. NOFI Current Buster will stay out at spill site collecting oil and the vessel with tank capacity will shuttle between spill site and land with the recovered oil.

The system ensures superior clean-up capabilities in tidal, wind and wave currents due to its high Speed Through Water (STW) capability. Given its design, the hydrodynamic shape reduces the drag force and allows the system to move easier through water. Together with the optimised shape of the separator arrangement, it stabilises the movement of the liquids and the separator in the temporary storage area. The system is also capable of operating faster and more efficient than conventional oil boom configurations, by using only one vessel in conjunction with a boom vane. This provides a significant advantage as it allows the system to achieve much higher towing speeds, of up to 4.4 knots.



Source <https://www.emsa.europa.eu/we-do/sustainability/pollution-response-services/equipment-assistance-service/item/4424-combined-recovery-system-nofi-current-buster-4-allmaritim.html>



Pictures taken during the NAMIRS Exercise

**TERMINATION OF JOINT RESPONSE OPERATIONS AND DEACTIVATION OF THE PLAN**

The SOSC shall terminate JRO when, according to his/her own judgement:

- i) pollution response measures have been finalized and the pollutant no longer threatens the interests of any of the Parties; or when
- ii) the situation has reached a point where the response capabilities and resources of the Lead Party are sufficient for successfully finalizing the response activities.

N.	WHAT	HOW
1	After taking decision to terminate JRO, the SOSC shall immediately inform the NOSCs of the other Parties and their respective Operational Authorities of this decision and of the deactivation of the Plan.	POLLINF form message.
2	Before deactivating the Plan and leave the Crisis Unit, the SOSC and the NOCS/representatives of the Countries involved <b>must decide the final destination of the collected oil and the disposal of the waste generated during rec-oil activities</b> in the available reception facilities placed in the territory of the three Countries, according to the NCPs and in compliance with the specific environmental rules in force. In consideration of the importance and the sensitivity of the matter, it has to be treated involving the Governmental Authorities of the three Countries.	

N.	WHAT	HOW
3	Following the deactivation of the Plan, all personnel, equipment, used products and other means which were involved in JRO shall return or be returned to their respective countries of origin.	
4	The Party who requested assistance shall take the necessary measures for prompt repatriation of the personnel of the assisting Parties, although co-ordination and preparation of the necessary arrangements for their repatriation remains the responsibility of their respective Operational Authorities.	
5	The Party who requested assistance shall be responsible for returning to the country of origin, unless otherwise agreed, all equipment rendered as assistance and all unused treatment products. All equipment and other resources shall be returned clean and in the best possible working order.	
6	Operational Authorities of the Parties concerned may decide in direct contacts between them that unused treatment products remain in the country which requested assistance.	

N.	WHAT	HOW
7	<p>Self-contained units (ships, aircraft) shall return to their country of origin using their own power. The Party who requested assistance is responsible for facilitating the formalities related to leaving its territory / territorial sea / airspace, for all units rendered as assistance.</p>	
8	<p>Following the termination of pollution response operations taken at both national level and within the framework of the Plan, the NOSC and/or SOSC respectively shall prepare the final report.</p>	

# Annexes

## Telephone, Fax and Telex Numbers and Email Addresses of National Authorities and of their Respective National Emergency Response Centres.

*Competent national authorities of each Adriatic coastal State are kindly requested to fill the table below with the relevant information concerning its country.*

### SOP ANNEX 1

Italia		
Access codes (dialling-out codes)	00	
Country codes (dialling-in codes)	39	
National Governmental Authority Ministry of Environment and Energetic Security – MASE	Tel	+39 06 5722 3401
	Fax	
	Email	montanaro.oliviero@mase.gov.it
National Operational Authority MASE - COIMAR	Tel	+39 06 5722 5761
	Fax	
	Email	spadoni.emanuela@mase.gov.it
Rescue Co-ordination Centre 24/7  ITMRCC – Italian Coast Guard Headquarters, Rome	Tel	+39 065923569, +390659084697
	Fax	
	Email	itmrcc@mit.gov.it
Emergency Response Centre  ITMRCC – Italian Coast Guard Headquarters, Rome	Tel	+39 065923569, +390659084697
	Fax	
	Email	itmrcc@mit.gov.it

Competent National Governmental Authority	
Title (e.g. Ms, Mr, Dr., Cdr. ...)	Mr.
Name, Surname	Oliviero Montanaro
Title (position within the office)	General Director
Department (Directorate, Division)	DG – TBM
Ministry	Mase
Address 1 (street, number)	Via Cristoforo Colombo, 44
Address 2 (postal code, city/town)	00147 – Roma (RM)
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Telephone (fixed line 1)	+39 06 5722 3401
Telephone (fixed line 2)	+39 06 5722 8368
Telephone (fixed line 3)	+39 06 5722 8104
Telephone (mobile/smartphone)	+39
Fax	
Email address (official)	montanaro.oliviero@mase.gov.it
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Working hours (summer: dates)	

### National Operational Authority

Title (e.g. Ms, Mr, Dr., Cdr. ...)	Ms.
Name, Surname	Emanuela Spadoni
Title (position within the office)	Head of the Division 6
Department (Directorate, Division)	DG – TBM – Division 6
Ministry	Mase
Address 1 (street, number)	Via Cristoforo Colombo, 44
Address 2 (postal code, city/town)	00147 – Roma (RM)
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Telephone (fixed line 2)	+39 06 5722 3428
Telephone (fixed line 3)	+39 06 5722 8316
Telephone (mobile/smartphone)	
Fax	
Email address (official)	spadoni.emanuela@mase.gov.it
Telex (if still in use)	Teams
Working hours (winter: dates)	
Working hours (summer: dates) Annex 1	

### National Contact Point (operational 24 hrs a day) Responsible for Receiving reports on Pollution Incidents

Title (e.g. Ms, Mr, Dr., Cdr. ...)	Mr.
Name, Surname	Roberto Cresca
Title (position within the office)	Head of the Coimar
Department (Directorate, Division)	General Directorate TBM - Division 6
Ministry	Mase
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Telephone (fixed line )	+39 06 5722 3426
Telephone (mobile/smartphone 1)	+39 366 9615 312
Telephone (mobile/smartphone 2)	+39 331 6380 851
Telephone (mobile/smartphone 3)	+39 335 8150 659
Telephone (mobile/smartphone 4)	+39
Fax	
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Telex (if still in use)	Teams
Working hours (winter: dates)	24/24
Working hours (summer: dates)	



### Emergency Response Centre (ERC)

Title (e.g. Ms, Mr, Dr., Cdr. ...)	Roberto D'arrigo
Name, Surname	Captain (ITCG)
Title (position within the office)	Head of National Operating Centre and I.M.R.C.C.
Department (Directorate, Division)	Italian Coast Guard Headquarters 3RD Department Plans and Operations - Italian Maritime Rescue Coordination Centre, Conguardcost
Ministry	Ministry of Infrastructures and Transport (MIT)
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Telephone (fixed line 1)	+39 06 5908 4409
Telephone (fixed line 2)	+39 06 5493 7200
Telephone (fixed line 3)	
Telephone (mobile/smartphone)	
Fax	//
Email address (official)	roberto.darrigo@mit.gov.it
itmrcc@mit.gov.it	Teams
Telex (if still in use)	
Video link (videoconferencing) if available, please indicate type/model of the equipment, communication standard, ID number(s), etc.	Teams
Working hours (winter: dates)	24/24
Working hours (summer: dates) Annex 1	24/24

### On-Scene Commander (NOSC)

Title (e.g. Ms, Mr, Dr., Cdr. ...)	Appointed in case of exercises and real situations
Name, Surname	
Title (position within the office)	
Department (Directorate, Division)	
Ministry	
Address 1 (street, number)	
Address 2 (postal code, city/town)	
Address 3 (country)	
Telephone (fixed line 1)	
Telephone (fixed line 2)	
Telephone (fixed line 3)	
Telephone (mobile/smartphone)	
Fax	
Email address (official)	
Telex (if still in use)	
Working hours (winter: dates)	00-24
Working hours (summer: dates)	00-24

## Telephone, Fax and Telex Numbers and Email Addresses of National Authorities and of their Respective National Emergency Response Centres.

*Competent national authorities of each Adriatic coastal State are kindly requested to fill the table below with the relevant information concerning its country.*

### SOP ANNEX 1

Republic of Slovenia		
Access codes (dialling-out codes)	00	
Country codes (dialling-in codes)	386	
National Governmental Authority	Tel	00386 1 471 33 22
	Fax	
	Email	urszr@urszr.si
National Operational Authority	Tel	00386 1 471 33 22
	Fax	
	Email	urszr@urszr.si
Rescue Co-ordination Centre 24/7	Tel	00386 1 471 32 62
	Fax	
	Email	OperativecCORS@urszr.si
Emergency Response Centre	Tel	00386 1 471 32 62
	Fax	
	Email	OperativecCORS@urszr.si

Competent National Governmental Authority	
Title (e.g. Ms, Mr, Dr., Cdr. ...)	Mr.
Name, Surname	Leon Behin
Title (position within the office)	Director General
Department (Directorate, Division)	Administration of the Republic of Slovenia for Civil Protection
Ministry	Ministry of Defense of the Republic of Slovenia
Address 1 (street, number)	Vojkova cesta 61
Address 2 (postal code, city/town)	1000, Ljubljana
Address 3 (country)	Slovenia
Telephone (fixed line 1)	00386 1 471 33 22
Telephone (fixed line 2)	
Telephone (fixed line 3)	
Telephone (mobile/smartphone)	
Fax	
Email address (official)	urszr@urszr.si
Telex (if still in use)	
Working hours (winter: dates)	
Working hours (summer: dates)	

**National Operational Authority**

Title (e.g. Ms, Mr, Dr., Cdr. ...)	Mr.
Name, Surname	Srečko Šestan
Title (position within the office)	Civil Protection Commander of the Republic of Slovenia
Department (Directorate, Division)	Administration of the Republic of Slovenia for Civil Protection and Disaster Relief
Ministry	Ministry of Defense
Address 1 (street, number)	
Address 2 (postal code, city/town)	
Address 3 (country)	
Telephone (fixed line 1)	
Telephone (fixed line 2)	
Telephone (fixed line 3)	
Telephone (mobile/smartphone)	
Fax	
Email address (official)	srecko.sestan@urszr.si
Telex (if still in use)	
Working hours (winter: dates)	
Working hours (summer: dates) Annex 1	

**National Contact Point (operational 24 hrs a day) Responsible for Receiving Reports on Pollution Incidents**

Title (e.g. Ms, Mr, Dr., Cdr. ...)	Capt.
Name, Surname	Primož Bajec
Title (position within the office)	Head of MRCC Koper
Department (Directorate, Division)	Slovenian Maritime Administration, Harbour Master's Office
Ministry	Ministry of Infrastructure
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Address 3 (country)	Slovenija
Telephone (fixed line 1)	+386 5 6632 106
Telephone (fixed line 2)	+386 5 6632 107
Telephone (fixed line 3)	+386 5 6632 108
Telephone (mobile/smartphone)	
Fax	+386 5 6632 110
Email address (official)	koper.mrcc@gov.si ; kp.promet@gov.si
Telex (if still in use)	-
Working hours (winter: dates)	24/7
Working hours (summer: dates)	24/7

### Emergency Response Centre (ERC)

Title (e.g. Ms, Mr, Dr., Cdr. ...)	
Name, Surname	
Title (position within the office)	
Department (Directorate, Division)	National Emergency 24/7 Notification Centre
Ministry	Administration of the Republic of Slovenia for Civil Protection and Disaster Relief, Ministry of Defense of the Republic of Slovenia
Address 1 (street, number)	Vojkova cesta 61
Address 2 (postal code, city/town)	
Address 3 (country)	
Telephone (fixed line 1)	+386 1 471 32 62
Telephone (fixed line 2)	
Telephone (fixed line 3)	
Telephone (mobile/smartphone)	
Fax	
Email address (official)	OperativecCORS@urszr.si
Telex (if still in use)	
Video link (videoconferencing) If available, please indicate type/model of the equipment, communication standard, ID number(s), etc.	
Working hours (winter: dates)	24/7
Working hours (summer: dates)Annex 1	24/7

### National On-Scene Commander (NOSC)

Title (e.g. Ms, Mr, Dr., Cdr. ...)	Appointed in case of exercises and real situations
Name, Surname	
Title (position within the office)	
Department (Directorate, Division)	
Ministry	
Address 1 (street, number)	
Address 2 (postal code, city/town)	
Address 3 (country)	
Telephone (fixed line 1)	
Telephone (fixed line 2)	
Telephone (fixed line 3)	
Telephone (mobile/smartphone)	
Fax	
Email address (official)	
Telex (if still in use)	
Working hours (winter: dates)	
Working hours (summer: dates)	

## Telephone, Fax and Telex Numbers and Email Addresses of National Authorities and of their Respective National Emergency Response Centres.

*Competent national authorities of each Adriatic coastal State are kindly requested to fill the table below with the relevant information concerning its country.*

### SOP ANNEX 1

Croatia		
Access codes (dialling-out codes)	+385	
Country codes (dialling-in codes)	+385	
National Governmental Authority Ministry of the Sea, Transport and Infrastructure – Maritime Safety Directorate	Tel	+385 1 6169 250
	Fax	
	Email	uprava.sigurnosti.plovidbe@pomorstvo.hr
National Operational Authority MRCC Rijeka	Tel	+385 51 195
	Fax	
	Email	mrcc@pomorstvo.hr
Rescue Co-ordination Centre 24/7 MRCC Rijeka	Tel	+385 51 195
	Fax	
	Email	mrcc@pomorstvo.hr
Emergency Response Centre	Tel	+385 51 195
	Fax	
	Email	mrcc@pomorstvo.hr

Competent National Governmental Authority	
Title (e.g. Ms, Mr, Dr., Cdr. ...)	Mr.
Name, Surname	Niko Hrdalo
Title (position within the office)	Head of the Service
Department (Directorate, Division)	Maritime Safety Directorate
Ministry	Ministry of the Sea, Transport and Infrastructure
Address 1 (street, number)	Prisavlje 14
Address 2 (postal code, city/town)	10 000, ZAGREB
Address 3 (country)	Croatia
Telephone (fixed line 1)	+385 1 6169 250
Telephone (fixed line 2)	
Telephone (fixed line 3)	
Telephone (mobile/smartphone)	
Fax	
Email address (official)	uprava.sigurnosti.plovidbe@pomorstvo.hr
Telex (if still in use)	
Working hours (winter: dates)	08:00 - 16:00
Working hours (summer: dates)	08:00 - 16:00

### National Operational Authority

Title (e.g. Ms, Mr, Dr., Cdr. ...)	Mr.
Name, Surname	Edo Šarunić
Title (position within the office)	Head of the MRCC Rijeka
Department (Directorate, Division)	Maritime Safety Directorate
Ministry	Ministry of the Sea, Transport and Infrastructure
Address 1 (street, number)	Senjsko pristanište 3
Address 2 (postal code, city/town)	51 000, Rijeka
Address 3 (country)	Croatia
Telephone (fixed line 1)	+385 51 195
Telephone (fixed line 2)	
Telephone (fixed line 3)	
Telephone (mobile/smartphone)	
Fax	
Email address (official)	mrcc@pomorstvo.hr
Telex (if still in use)	
Working hours (winter: dates)	00:00 - 24:00
Working hours (summer: dates)Annex 1	00:00 - 24:00

### National Contact Point (operational 24 hrs a day) Responsible for Receiving Reports on Pollution Incidents

Title (e.g. Ms, Mr, Dr., Cdr. ...)	
Name, Surname	
Title (position within the office)	Duty officer
Department (Directorate, Division)	Maritime Safety Directorate
Ministry	Ministry of the Sea, Transport and Infrastructure
Address 1 (street, number)	Senjsko pristanište 3
Address 2 (postal code, city/town)	51 000, Rijeka
Address 3 (country)	Croatia
Telephone (fixed line 1)	+385 51 195
Telephone (fixed line 2)	
Telephone (fixed line 3)	
Telephone (mobile/smartphone)	
Fax	
Email address (official)	mrcc@pomorstvo.hr
Telex (if still in use)	
Working hours (winter: dates)	00:00-24:00
Working hours (summer: dates)	00:00-24:00

### Emergency Response Centre (ERC)

Title (e.g. Ms, Mr, Dr., Cdr. ...)	
Name, Surname	
Title (position within the office)	Duty officer
Department (Directorate, Division)	Maritime Safety Directorate
Ministry	Ministry of the Sea, Transport and Infrastructure
Address 1 (street, number)	Senjsko pristanište 3
Address 2 (postal code, city/town)	51 000, Rijeka
Address 3 (country)	Croatia
Telephone (fixed line 1)	+385 51 195
Telephone (fixed line 2)	
Telephone (fixed line 3)	
Telephone (mobile/smartphone)	
Fax	
Email address (official)	mrcc@pomorstvo.hr
Telex (if still in use)	
Video link (videoconferencing) If available, please indicate type/model of the equipment, communication standard, ID number(s), etc.	n/a
Working hours (winter: dates)	00:00-24:00
Working hours (summer: dates)Annex 1	00:00-24:00

### On-Scene Commander (NOSC)

Title (e.g. Ms, Mr, Dr., Cdr. ...)	
Name, Surname	
Title (position within the office)	Harbour Master (in charge of the oil spill area)
Department (Directorate, Division)	Maritime Safety Directorate
Ministry	Ministry of the Sea, Transport and Infrastructure
Address 1 (street, number)	
Address 2 (postal code, city/town)	
Address 3 (country)	
Telephone (fixed line 1)	
Telephone (fixed line 2)	
Telephone (fixed line 3)	
Telephone (mobile/smartphone)	
Fax	
Email address (official)	
Telex (if still in use)	
Working hours (winter: dates)	00-24
Working hours (summer: dates)	00-24

# HEADER OF THE OPERATIONAL AUTHORITY POLWARN

## SOP ANNEX 2

**DTG** (DAY/TIME GROUP) \_\_\_\_\_

**MSG N.** \_\_\_\_\_ /2023

**FROM (FM)** (PARTNER REQUESTING ASSISTANCE)

**TO (TO)** TBD (NATIONAL LIST OF CONTACTS AND OTHER NAMIRS PARTNERS)

**AND, FOR KNOWLEDGE (INFO)** TBD

### PART I

<b>1</b>	Report the day, month and time (gmt time if possible) of the incident or, if not known, when the event became known.
<b>2</b>	Report the position in latitude and longitude. In addition, it may be indicated local location (bearing and distance).
<b>3</b>	Report the type of accident (e.g. collision of a tanker, i.e. " tanker collision ").
<b>4</b>	Type of spill, quantity in tons of spilled product, also as installment hourly and quantity of product that could potentially end up in the sea (e.g. oil fuel spilled 100 tons and 1400 tons at risk of spilling into sea, at risk of further outflows ").
<b>5</b>	Acknowledge: Use this code when you want the competent National Authority should learn about it by making the acknowledgment.

# HEADER OF THE OPERATIONAL AUTHORITY POLLINF

## SOP ANNEX 3

**DTG** (DAY/TIME GROUP) \_\_\_\_\_

**MSG N.** \_\_\_\_\_ /2023

**FROM (FM)** (PARTNER REQUESTING ASSISTANCE)

**TO (TO)** TBD (NATIONAL LIST OF CONTACTS AND OTHER NAMIRS PARTNERS)

**AND, FOR KNOWLEDGE (INFO)** TBD

### PART II

<b>40</b>	Report the day, month and time (gmt time if possible) to which this report refers to.
<b>41</b>	Indicate the location of the main pollution spots and their size in nautical miles.
<b>42</b>	Indicate the characteristics of the product poured into the sea that it generated pollution (viscosity, pourpoint, specifying any type of packaging or if in bulk, etc.).
<b>43</b>	Report the source and cause of the pollution, whether accidental or deliberate (e.g. from vessel due to collision).
<b>44</b>	Indicate the wind direction in degrees and intensity in m/sec.
<b>45.</b>	Indicate the direction in degrees and the speed in m/sec of the current.



46	Indicate sea state and visibility.	
47	Indicate the direction in degrees in which the pollution derives and its speed in knots and decimal of a knot.	
48	Forecast of arrival at the coast with an indication of the estimated time based on a mathematical model.	
49	Indicate the person who provided the first indication of the incident. In the case of a vessel, identify it by its name, home port, flag and international callsign. Also indicate the other vessels that are present in the area at the time of the event, especially when the person who caused the pollution cannot be immediately identified.	
50	Indicate the actions taken as a result of the pollution.	
51	Indicate if photographic surveys and samplings were carried out. Also include the telex from the authority which carried out the sampling	
52	Indicate the authorities of other Countries or other organizations informed	
da 53 a 59	Available for further information such as, for example, the result of analyses, inspections, declarations made, etc.	
60	Acknowledge: Use this code when you want the competent National Authority should learn about it by making the acknowledgment.	

## HEADER OF THE OPERATIONAL AUTHORITY POLFAC

### SOP ANNEX 4

**DTG** (DAY/TIME GROUP) \_\_\_\_\_

**MSG N.** \_\_\_\_\_ /2023

**FROM (FM)** (PARTNER REQUESTING ASSISTANCE)

**TO (TO)** TBD (NATIONAL LIST OF CONTACTS AND OTHER NAMIRS PARTNERS)

**AND, FOR KNOWLEDGE (INFO)** TBD

#### PART III

80	Date and time, referring to the situation described below and if it varies from the numbers 1 and/or 40	
81	Assistance required, by type and amount of assistance requested as follows: <ul style="list-style-type: none"> <li>• specific equipment;</li> <li>• specific equipment with trained personnel;</li> <li>• first aid teams;</li> <li>• personnel with specific skills.</li> </ul>	
82	Cost – requests for information on costs addressed to those from whom assistance is required.	
83	Preliminary arrangements for sending assistance – information concerning customs procedures, access to territorial waters, etc., in the requesting country	
84	How and where assistance should be provided – telephone and fax numbers of contact points, indications of the OSC, frequencies to be used, etc.	

<b>85</b>	Names of other states and organizations – to be used only if not indicated in n. 81 in the case of other requests from other States at later times.
<b>86</b>	Change of command – can occur when the pollution has moved to another area, even in another country.
<b>87</b>	Exchange of information - when the agreement on the change of command has been reached, all the important data pertaining to the operation underway in the incoming country must be sent.
<b>From 88 to 98</b>	Free for more information and guidelines or instructions
<b>99</b>	Acknowledge: Use this code when you want the competent National Authority should learn about it by making the acknowledgment.

## HEADER OF THE OPERATIONAL AUTHORITY MESSAGE FOR DESIGNATION OF THE ON SCENE COORDINATOR (OSC)

### SOP ANNEX 5

**DTG** (DAY/TIME GROUP) \_\_\_\_\_

**MSG N.** \_\_\_\_\_ /2023

**FROM (FM)** (PARTNER REQUESTING ASSISTANCE)

**TO (TO)** (OSC Zone Coordinator Designated Officer) \_\_\_\_\_

**AND, FOR KNOWLEDGE (INFO)** TBD

**SUBJECT:** \_\_\_\_\_ - DESIGNATION OF AREA COORDINATOR.

**REFERENCE:** (Local/National Contingency Plan of the concerned Country).

1. PURSUANT TO AND FOR THE EFFECTS OF THE PLAN IN REFERENCE, YOUR VESSEL IS DESIGNATED AS ON SCENE COORDINATOR IN THE AREA OF OPERATIONS RELATED TO THE POLLUTION OCCURRED IN \_\_\_\_\_.
2. THIS AUTHORITY WAITS FOR THE CONFIRMATION OF ASSUMPTION OF THE ASSIGNMENT.

signature

\_\_\_\_\_

## HEADER OF THE OPERATIONAL AUTHORITY LOCAL CRISIS UNIT - SUPPORT TEAM

### SOP ANNEX 6

AUTHORITY	CONTACTS
Maritime Authority	
Prefecture (or other governmental local structure)	
Municipality Concerned	
Fire Fighters	
Port Authority	
Local/National Environment Protection Agency	
Research Centers or Universities	
Civil Protection	
Health Authority	
Port Chemist	
Pilots	
Moorers	
Tugs	
Classification Register	
Private Societies Contractors or Concessionaire of Anti Pollution Services	
Oil Terminals	
Representatives of Industry, including, in particular, the oil and shipping industries	

## LIST OF VESSELS, BOOMS, SKIMMERS AND OTHER DEVICES / FACILITIES

(Provided by the University of Lubiana)

### SOP ANNEX 7

[NAMIRS D2.2 Mapping of Existing resources](#)

NAMIRS Annex K - Assets and Equipment - WORKING.docx

## LIST OF SENSITIVITY AREAS

(Provided by OGS)

### SOP ANNEX 8

<https://www.cei.int/sites/default/files/2023-03/NAMIRS%20D2.1%20Environmental%20Risk%20Assessment%20Report.pdf>

# RESPONSE VESSEL JOINING MESSAGE INTRODUCTION

## SOP ANNEX 9

During major spill response operations or major spill response exercises at sea, the affected State would probably request several types of assistance beyond its own spill response vessels: Oil Spill Response Vessels (OSRV) from neighbouring countries by activating Regional and Bilateral Agreements and/or by requesting oil spill response units from EMSA; or additional local, public or private units (for example private fishing vessels, private logistic vessels, etc....), named as Vessels Of Opportunity (VOOs).

In order for the coordinating maritime authority to employ all the response units in the best way possible (depends on the vessel type, equipment available, expertise available on board, extra capacities, ....), this **Joining Message** will give all the necessary information and detailed communication data to the Command Centre and the On-Scene Commander (OSC), for each unit working on the operation at sea.

For facilitating the communication between units and for all participating units to know each Response Vessel's capabilities and capacities, each **Joining Message** could be shared by the OSC with all the participating units already on scene.

This **Joining Message** is for operational use. It should be sent by the vessel's responsible person or authority, i.e. Designated Person Ashore (DPA)/Captain/OPS Command Center/maritime authority from State owner/Coast-Guard vessels, etc., to the Command Center of the requesting country. This is not a contractual/financial document; it should be sent after the agreement is concluded between the requesting state and the offering state/ship owner and prior to the unit's arrival on scene.

Additional detailed information on how to fill-in the **Joining Message** is provided below, at the end of the form.

**Use the table below: don't write anything in the left column; use the right column erasing examples and just keeping the numbers to indicate your data.**

	MAIN CONTACT INFORMATION	EXAMPLES
1	Name of operation - exercise/date message sent	RAMOGEPOL 2022 major Exercise / 12-10-2022
2	Ship name/operational status /IMO/MMSI	JASON / FR NAVY – RAMOGEPOL / xxxxx / xxxxx
3	Captain name / rank / tel /email	Patrick Larivière /1111 1111 1 / patricklariviere@jason.fr
4	Spill Response Operations POC on board/name/function on board	POC / Pauline Dupuis / OSR Team leader
5	POC's TEL 1/POC's TEL 2	22222222222 / -
6	POC's EMAIL	paulinedupuis@jason.fr / -
7	PERIOD/start date/end date	13-10-2022 / 20-10-2022
8	Additional info/free text	able to be integrated in WhatsApp or Signal group discussions with the MOB Phone number indicated in point 5
	VESSEL DATA	EXAMPLES
9	State Vessel (state owned or operated) or Vessel of Opportunity (VOO)	Vessel chartered by the FR Navy for State Action / STATE VESSEL
10	Flag state/vessel's name/type/ship owner/callsign/homeport	FRENCH / JASON / SUPPLY VESSEL / Les Abeilles / FMEE / Toulon
11	Class notation / Oil Recovery Vessel (ORV) FP> or <60°C / other	YES: Class ORV FP>60°C / / High Sea Tug
12	HNS capability /Y/N	NO
13	DPA/full name/tel/email	DPA : M. Albert Durand / 3333333333 / a.durand@abl.fr
14	Length (m)/width (m)/draught (m)/ air draught (m) / max speed (knot)/ average speed (knot) / speed in ORO	67m. / 15.40m. / 6 m. / 20 m. / 14 kt / 12.2 knt / 1knt to 4 knt
15	Deck Crane	One deck crane: 23t for 7 m. & 8t. for 20m.
16	Bollard pull (t)	120t.
17	Oil storage capacity/heated m <sup>3</sup> /unheated m <sup>3</sup>	YES / 1 000 m3 heated / -
18	Auxiliary boat/type/engines/specific capacities	YES / 2X inflatable boats / 2X 75hp off-board engines / -
19	Chemical storage capacity/heated m <sup>3</sup> / unheated m <sup>3</sup>	NO / - / -

20	Gas tight citadel / explosion proofed electric device / gas-alarm device / gas analysis system (type)	NO / YES / YES / NO
21	Inert gas system for storage tanks	NO
22	Additional info/free text	-
<b>COMMUNICATION DATA</b>		<b>EXAMPLES</b>
23	VHF/able to guard x number of channels	YES / 4
24	AIR UHF/able to guard x number of channels	YES / 4
25	SATCOM/number	SATCOM : 4444444444
26	TETRA/ number	TETRA : -
27	Mobile phone: XXXXXXXX	Captain Mob phone: 11111111 / Bridge mobile phone: 55555555
28	Additional info/free text	-
<b>CREW COMPOSITION</b>		<b>EXAMPLES</b>
29	Captain's name/number of officers/ number of other crewmembers	Patrick Larivière / 3 / 7
30	Extra expertise available on-board / number/function	Extra OSR team / 7 / 1 ORO officer team leader + 1 engineer + 5 technicians
31	Divers/number/grade	Divers / - / -
32	Medic/number/grade	Medic / - / -
33	Limitations: ship's maximal working hours per day	ability to work with spill response equipment at sea from the sunrise to the sunset
34	Additional info/free text	2 technicians from the OSR Team are RPAS pilots too /
<b>RESPONSE EQUIPMENT</b>		<b>EXAMPLES</b>
35	Sweeping-arms/name-type / length (meter) / draught (meter) / use speed / preparation's time (minutes) / limitations winds-sea (knots-Douglas scale) / additional info	YES/1 Sweeping Arm KOSEQ - portside use / 12 m. / 1 m. / 1 knt / 60 min. / max Winds :16 knts ; max Sea : 2 / -
36	Boom/name-type /length (meter) / draught (meter) / use speed / preparation's time / limitations sea-wind / additional info	YES / Booms x2 / REYCAU 600 – inflatable high-sea boom / 300 m. each / 0.8 m. / 3 knts / 40 min. / max Winds : 30 knts – max Sea : 5 / Possibility to link the two booms to have a 600 m. long boom

37	Skimmer/name-type / theoretical flow (m <sup>3</sup> /h)/ use speed / preparation's time / limitations sea-wind / additional info	YES / Skimmer 1 /LAMOR LUT 80 / 112 m <sup>3</sup> /h / 1 knt / 20 min. / max Winds : 30 knts – max Sea : 5 / - Skimmer 2 / FOILEX TDS 250 / 130 m <sup>3</sup> /h / 1.5 knts / 20 min. / max Winds : 25 knts; max Sea : 4 / -
38	Dispersant/name-type-volume on board / name-type of the spreading system /additional info	YES / 50m <sup>3</sup> INIPOL 80 / Boat Spray / -
39	HNS capability (Y/N)	NO
40	Mobile lightening pump for oil / chemicals (Y/N)	YES / NO
41	Additional info/free text	-
<b>MISCELLANEOUS (other assistance &amp; response capacities):</b>		<b>EXAMPLES</b>
42	Firefighting / flow (m <sup>3</sup> /h) / fire-fighting foam (m <sup>3</sup> )	YES / FIFI / 2 400m <sup>3</sup> /h / YES
43	Lightering / name of cargo pump / diameter /capacity (m <sup>3</sup> /h) /additional info	YES / TK 150 FRAMO / Camelock 6 inches / 300 m <sup>3</sup> /h / ok for oils and HNS
44	RPAS on board / name-type/range (meter) / endurance (minutes) / pilots / additional info	YES / 2x quadricopter PARROT ANAFI / 1 000 m – 25 min/ 2x pilots / day flights only
45	Slick detection / name-type	-
46	Helicopter winch area / landing area	YES / NO
47	Additional accommodation space for external personnel (e.g. chemists, salvage...)	NO
48	Additional info / (any other assistance capabilities to be mentioned)	2x oil sample kit / Drifting Buoys : 3x i-SLDMB ; iridium transmission; Autonomy : 30-48Hrs

## HOW TO FILL-IN the Joining Message

Use the table above : don't write anything in the left column; use the right column erasing examples and just keeping the numbers to indicate your data.

- **MAIN CONTACT INFORMATION:**

**(2) for « operational status »** : please, indicate under which status the vessel is participating to the operation/exercise : under activation of a Regional Agreement, if yes which one [example : RAMOGEPOL, HELCOM, Bisacye Plan, ...]; under EMSA services [in that case, just mention : « EMSA »]; under other assistance requesting mode [example : for a local working boat which has been chartered by the maritime authority for helping with logistics at sea, just mention : «Chartered by Coastal State »]

**(3) Captain:** name, rank, tel and email of vessel's captain.

**(4) for the Point Of Contact (POC) on board** : point of contact for the response operations, it means the person with whom the OSC could discuss the operations; this POC could be the vessel captain, but not necessary. This POC could also be the second captain or the operations officer. This POC could be a member of an extra team boarding the vessel, for example a strike team leader or a spill response operations expert specifically deployed on board. Please indicate his/her Full Name and function on board.

**(5) & (6): TEL & EMAIL:** indicate the POC direct phone number + a second phone number if available and his/her direct email address. If the POC is the Captain, please repeat his/her phone number and email

**(7), PERIOD** : Indicate the period of work on scene if known / date of the vessel arrival on scene / date of leaving the operations theatre if already decided

**(8) additional info:** For example if the POC agrees with communication tools/applications such as WhatsApp, Signal, other, ....

- **VESSEL DATA:**

**(10)** "State Vessel" is a vessel that is State operated or owned, e.g., a vessel chartered for State action at sea, whereas "VOO" is a vessel (e.g., a fishing vessel or tug) specifically chartered by a Coastal State just for the duration of a specific operation

**(11) & (12) for "Oil Capabilities" and "HNS capabilities\*"**: please, indicate YES or NOT and if YES, the capabilities level. [example : "YES – ORV class FP>60oC /

Other example: "NO / NO / logistics capacities with 500m<sup>2</sup> deck and 2 cranes"]

**(14) for « speed in ORO »** : indicate main speed when the vessel is working on pollution recovery operations with her equipment at sea, work in progress.

**(15) for "deck crane"**: indicate the number of cranes and capacities for each

**(17) for « oil storage capacities »** : indicate YES or NOT /total volume of heated storage (cubic meters) / total volume of unheated storage (cubic meters).

**(18) for « auxiliary boats » on board** : indicate YES or NOT, then number and type, type of engines. Add specific capacities of auxiliary boats if they have some or put « - « if they don't .

**(19) for « Chemical storage capacities »** : indicate YES or NOT /total volume of heated storage (cubic meters) / total volume of unheated storage (cubic meters).

**(20)** does the ship have a gas-tight citadel to protect personnel during operations in a contaminated atmosphere? Are the external electrical systems designed to be explosion-proof so that the ship can operate in an explosive atmosphere? Does the ship have a gas warning system that can measure toxic and / or explosive gases? Is the ship equipped with a gas analysis system in order to be able to determine gaseous hazardous substances in the atmosphere around the ship? If "yes", what type of system is it?

**(21)** is the ship equipped with an inert gas system to put the cargo tanks in an explosion-proof state during and after being filled with a flammable and / or explosive liquid?

**(22)** any additional information you might think of regarding vessel's data. Just indicate " - " if not.

- **COMMUNICATION DATA:**

**(23), for VHF:** indicate YES or NO if you have some or have not some VHF on board / Indicate the number of different channels you are able to guard at the same time.

**(24), for UHF:** indicate YES or NO if you have some or have not some UHF on board / Indicate the number of different channels you are able to guard at the same time.

**(25), for SATCOM:** indicate the calling number if you've got one on board, indicate "- " if you don't.

**(26), for TETRA:** indicate the calling number if you've got one on board, indicate "- " if you don't.

- **CREW COMPOSITION:**

**(30) for "extra expertise available on board"** : such extra expertise means people and functions on board in addition to the crew and could be relevant also in case such expertise can be shared during the operations if needed.

**(33)** The duration of deployment at sea depends, among other things, on whether the ship is operated in a 2- or 3-watch rhythm or in a 1-shift system.

- **RESPONSE EQUIPMENT:**

For each type of equipment, "preparation's time" means the required time to put the equipment from the secure position on deck to the working position at sea; and "wind-sea limitations" mean the limitations known from industrial specifications and real experience use for this equipment in terms of wind speed (in knots) and sea-state conditions (with the Douglas Scale). "use speed" means the vessel's speed when this equipment is at sea, work in progress.

For each type of equipment, indicate YES or NO, and detailed information as mentioned if YES. If you've got on board two or three different booms or skimmers, or several type of dispersant : indicate YES, then "skimmer 1" plus detailed information; "skimmer 2", plus detailed information; "skimmer 3" plus detailed information.

• **MISCELLANEOUS:**

(47): for "Additional accommodation" : if there is space on your board to provide accommodation for other extra people, in addition to all person you mentioned in boxes "CREW COMPOSITION".

## OSC DAILY SITREP & FLEET INSTRUCTIONS INTRODUCTION

### SOP ANNEX 10

Goal of this **OSC Daily SITREP & INSTRUCTIONS** is for the OSC to inform all participating captains or Strike Teams on what happened on that day and to give operational instructions for the following day. This document should be sent by the OSC (or SOSOC) at least once a day.

### 1. Spill(s) – (Casualty)

**CASUALTY** (Vessel, origin of the spill, continual discharge, port of refuge ...)

Fill-in here

**SPILL General scope or picture of the spill** (observations, drifting buoys, maps...; Results from drifting models; Some extracts or the copies of the daily POLREP/pictures from aerial survey, if relevant;)

Fill-in here /attach

### 2. Global Situation report – Global Strategy

**Maritime authority assessment, priorities-restrictions, areas to protect**

Fill-in here

**Some extracts how media are reporting this operation and the work of the OSR fleet**

Fill-in here

**Other information from Command Center, if relevant**

Fill-in here

### 3. Weather forecas

**On site weather forecast from national Authorities / command operations center for the following days**

Fill-in here

### 4. Aerial surveillance/support

Aerial Asset	Area	Local Time	Working channel
FR – F50 XENON CHARLIE	Wreck position	09:00 / 11:00	Channel 61 / OSRV A
ESP – CASA SASEMAR	All areas	14:00 / 16:30	Channel 74 / OSC

## 5. Task distribution

Distribution by the OSC of task for each Unit, for the following day.

Unit	Area	Task	Observations
OSRV A	At the wreck position (xx°xx'xx"N – xxx°xx'xx"W)	Oil recovery operations. Aerial guidance from the FR. pilots between 09:00 / 11:00 [XC]	Quickly report to the OSC if no more pollution or if black oil
OSRV B	SLICK n°3 [center at xx°xx'xx"N – xxx°xx'xx"W; 3nm in diameter)	Oil recovery operations	OSC's OSRV in the same area; tug ABC at your disposal
OSRV C	Transit to Marseille – port of call	Discharging pollutant, refueling, water / food	Previous to arrive in Marseille at 16:00 Z on the 26th of Feb

## 6. Shipborne RPAS restrictions\*

OSRV A RPAS	Free flights under 1 500 ft	NO FLIGHT 09:00 / 11:00
OSRV B RPAS	Free flights under 1 500 ft	NO FLIGHT during aerial guidance
OSRV C RPAS	no flight	no flight

\* Be aware of any specific air coordination information or instructions provided by the Command Centre/OSC

## 7. Additional guidance related to the operation

Health and Safety guidance; PPE	Logistics Instructions/ Information	Additional information
	for example: « Marseille would be the port of discharge, Command Center will confirm that point tomorrow afternoon	
OSRV C RPAS	no flight	no flight

## 8. COMPLAN and phone-mail directory

Working channel			
SHIP to SHIP:			
SHIP to SHIP:			
OSC phone-mail directory			
Function	Name (optional)	Telephone	Email
For example: SOSC and OSR Team Leader on board of JASON	Pauline Dupuis	2222222222	yyyyyyyy@jason.fr
Other info, if relevant			
Fill-in here			



## 9. Other OSC considerations

### OSC comments, overnight goals, limitations, explanations

For example: it seems slicks at the wreck position are lighter and less and less numerous. To be confirmed, but this area is probably almost cleaned and possibly no more leakages from the wreck.

## 10. Time of next OSC Daily Sitrep & Fleet Instructions

### Time of next OSC Daily Sitrep & Fleet Instructions

For example: Tomorrow, the 26th of February, around 18:00

## HOW TO FILL-IN

**Please fill-in the blank cells next or below each of the relevant points. Where examples are available, please replace the example with your own information/free text.**

**DATE/TIME:** always indicate the date and time the message is sent by the OSC to the captains of the vessels/Strike Teams participating to the spill recovery operations.

Usually, the DATE format would be YEAR MONTH DAY (example : 20210329), but the Command Center could decide for another format. In this case, all captains would be informed.

Usually, TIME will be indicated in local time, simple redaction, such as 18 :00 ; but the Command Center could decide for another format. In this case, all captains would be informed.

**REF NUMBER:** this reference number could be useful for filing/reporting ; each OSC/host country will define a numbering system for these OSC Daily SITREPS, if/as needed

**Points 1 to 4** are mainly to keep all captains and crews well informed about the situation (casualty / pollution / behaviour and drifting of spill(s), last POLREP, ...), the global strategy (Information from the Command Center ; priorities of the Maritime Authority; how the Media deals with these maritime operations, ...), the weather forecast on the operations

theatre (analysis from the Command Center and/or national competent organisation). The 4th paragraph is to inform about the aerial surveillance and support for the recovery operations (usually organised by the Command Center).

**Point 5** concerns instructions / task distribution by the OSC for each vessel / strike team / unit... In that case, the 1st column of the Table 5 could indicate « UNIT » or « STRIKE TEAM » or « OSRV » or, ... to be adapted by the OSC, depends on the host Country's organisation.

**Point 6** concerns RPAS authorizations and/or restrictions; depending on the performed activities, aerial surveillance and Host country rules.

**Paragraph 7** is to give additional guidance or information related to the operation, e.g. Health and Safety or PPE, safety zone, logistics information, MAR-ICE network if HNS incident, etc.

**Point 8** will be repeated in all the OSC DAILY SITREP & INSTRUCTIONS, even though working channels don't change.

**Point 9** is the place for the OSC to give his/her own considerations, analysis, comments to share with the fleet, beyond the formal distribution of tasks. The aim here is to open the possibility for captains and experts from different units to appreciate the strategic and tactic situations, maybe to open discussions, share previous experiences or share analysis. The response operations should be able to benefit from all the available expertise and experiences of the international fleet, optimising the team-work in order to be the most efficient for recovering pollution at sea.

**Point 10:** Here, the OSC should indicate for information the expected timeline for sending the next **OSC DAILY SITREP** (could be one per day or more SITREPs per day, depending on the host country and the OSC). This would also depend on the specific situation of the operations and could differ day by day.

## DAILY REPORT MESSAGES

### SOP ANNEX 11

[3.VESSEL\\_DAILY\\_REPORT\\_FINAL.xlsx](#)

[4.OSC\\_FLEET\\_TABLE\\_FINAL.xlsx](#)

