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Second Meeting of the Barcelona Convention Offshore Oil and Gas Group (OFOG) Sub-Group on Environmental Impact

Athens, Greece, 27-28 June 2019

**Report of the Second Meeting of the Barcelona Convention Offshore Oil and Gas Group (OFOG) Sub-Group on Environmental Impact**

**Draft**

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UNEP/MAP  
Athens, 2019

## Table of Contents

	Pages
Report of the meeting	1-5
Annex I List of Participants	
Annex II Agenda of the Meeting	
Annex III Conclusions and Recommendations	
<i>Appendixes</i>	
Appendix 1. Mediterranean Offshore Guidelines and Standards: Common Standards and Guidance on the Disposal of Oil and Oily Mixtures and the Use and Disposal of Drilling Fluids and Cuttings (UNEP/MED WG.476/L2)	
Appendix 2. Mediterranean Offshore Guidelines and Standards: Common Standards and Guidelines for Special Restrictions or Conditions for Specially Protected Areas (SPA) within the Framework of the Mediterranean Offshore Action Plan (UNEP/MED WG.476/L3)	
Appendix 3. Mediterranean Offshore Guidelines and Standards: Guidelines for the Conduct of Environmental Impact Assessment (EIA) (UNEP/MED WG.476/L4)	

## Introduction

1. In accordance with the United Nations Environment Programme/Mediterranean Action Plan (UNEP/MAP) Programme of Work 2018-2019, adopted by the 20<sup>th</sup> Ordinary Meeting of the Contracting Parties to the Barcelona Convention and its Protocols (COP 20) (Tirana, Albania, 17-20 December 2017), and in the framework of the Cooperation Agreement between UNEP and the Italian Ministry for Environment, Land and Sea Protection (IMELS), the Secretariat, with support from the Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC), organized the Second Meeting of the Barcelona Convention Offshore Oil and Gas Group (OFOG) Sub-Group on Environmental Impact on 27-28 June 2019, at the UNEP/MAP - Barcelona Convention Secretariat premises in Athens, Greece.

2. The main objectives of the meeting were to:

- a) Review and approve at a technical level a number of documents relating to the development of Offshore Common Standards and Guidelines, the status of implementation of the Mediterranean Offshore Action Plan and possible amendments to the Offshore Protocol Annexes;
- b) Provide guidance to the Secretariat on next steps to be followed in view of effectively supporting the implementation of the Offshore Protocol and the Mediterranean Offshore Action Plan; and
- c) Foster discussions among Contracting Parties, MAP partners and the private sector focusing on the legal and policy framework for the regulation of offshore activities in the Mediterranean.

### Agenda item 1: Opening of the Meeting

3. The meeting was opened at 9:30 a.m. on 27 June 2019 by Mr. Gaetano Leone, Coordinator of UNEP/MAP – Barcelona Convention Secretariat.

4. The Coordinator welcomed the participants and provided an overview of the work undertaken by the Secretariat in coordination with relevant MAP Components in the current biennium in line with the provisions of the Offshore Protocol and the Mediterranean Offshore Action Plan.

5. He noted the increasing interest on offshore exploration and exploitation activities shown in the Mediterranean region and highlighted the need to ensure that these activities do not pose any risk to the status of the marine and coastal environment. He also encouraged the Contracting Parties which have not done it yet to ratify the Offshore Protocol, as this would demonstrate the regional interest in regulating jointly such activities, but also facilitate the mobilization of resources to support its implementation and enforcement.

6. The meeting was attended by representatives from the following Contracting Parties: Algeria, Bosnia and Herzegovina, Croatia, Cyprus, European Union (through teleconference means), Egypt, Greece, Israel, Italy, Libya, Morocco, Tunisia, and Turkey. The following non-governmental organizations and associations were represented: WWF and the International Association of Oil and Gas Producers (IOGP). The UNEP/MAP – Barcelona Convention Secretariat was represented by the MAP Coordinating Unit and REMPEC. The full list of participants is attached as Annex I to the present report.

### Agenda item 2: Adoption of the Agenda and Election of Officers

*UNEP/MED WG.476/1, UNEP/MED WG.476/2, UNEP/MED WG.476/Inf.1/Rev.1*

7. In accordance with the Rules of procedures for meetings and conferences of the Contracting Parties, the meeting elected one (1) President, three (3) Vice-Presidents and one (1) Rapporteur from among the participants, as follows:

President: Ms. Vlatka Vaniček, Croatia  
Vice-President: Mr. Fred Arzoine, Israel  
Vice-President: Mr. Samir Khedhira, Tunisia  
Vice-President: Ms. Derya Didem Uğur, Turkey  
Rapporteur: Ms. Maria Loizou, Cyprus

8. During the adoption of the Agenda, it was agreed to include under Any Other Business item, depending on time availability, a presentation of IOGP, as well as a brief presentation on OSPAR work on the regulation of offshore activities in the North-East Atlantic region.

9. The meeting adopted the Agenda as appearing in Annex II to this report.

**Agenda item 3: Mediterranean Offshore Guidelines and Standards**

*UNEP/MED WG.476/3, UNEP/MED WG.476/4, UNEP/MED WG.476/5  
UNEP/MED WG.476/Inf.4, UNEP/MED WG.476/Inf.5, UNEP/MED  
WG.476/Inf.6, UNEP/MED WG.476/Inf.8, UNEP/MED WG.476/Inf.9,  
UNEP/MED WG.476/Inf.10*

10. Ms. Tatjana Hema, Deputy Coordinator of UNEP/MAP – Barcelona Convention Secretariat provided an overview of the work undertaken for the development of three Mediterranean Offshore Guidelines and Standards, focusing on their scope and links with the legal and policy framework of the MAP - Barcelona Convention.

**a) Guidelines for the Conduct of Environmental Impact Assessment (EIA)**

11. Mr. Gabino Gonzalez, Head of Office of REMPEC presented the document UNEP/MED WG.476/3/Corr.2 “Mediterranean Offshore Guidelines and Standards: Guidelines for the Conduct of Environmental Impact Assessment (EIA)”, including, in square brackets and in footnotes, changes and comments proposed by several Contracting Parties and one Partner in written form following the Meetings of the REMPEC Focal Points (Malta, 11-13 June 2019) and the SPA/BD Thematic Focal Points (Portoroz, Slovenia 18-21 June 2019).

12. The meeting reviewed the document, focusing on proposed changes and comments submitted prior to the meeting by several Contracting Parties and Partners (i.e. Cyprus, EU, Israel, Italy and IOGP), which provided explanations and additional information on their proposed changes for consideration by the meeting.

13. In response to comments expressed by the meeting on the scope of the Guidelines, the Secretariat clarified that their purpose is not to establish the general framework for EIA, which is already established in most of the Contracting Parties, but to provide a tailored and specific guidance and key elements to be taken into consideration by the Parties when applying such national frameworks for offshore activities.

14. One Contracting Party stressed that the national legislation should prevail over the Guidelines’ provisions.

15. Several Contracting Parties highlighted the importance of Strategic Environmental Assessment (SEA) for area-based planning, the formulation of governmental strategies and the identification of data gaps at an early stage prior to licensing and the meeting agreed on the inclusion of relevant provisions in the introductory part of the Guidelines.

16. The Secretariat shared with the meeting participants an in-session revised version of the document reflecting the meeting discussions and the changes agreed and proposed two different alternatives for the way forward. The meeting took note of the revised version but considered that

further review is required before its finalization. It therefore invited the Contracting Parties to provide additional proposals and suggestions on the document for its finalization and submission to the next OFOG meeting during the biennium 2020-2021.

**b) Common Standards and Guidance on the Disposal of Oil and Oily Mixtures and the Use and Disposal of Drilling Fluids and Cuttings**

17. Mr. Gabino Gonzalez, Head of Office of REMPEC presented the document UNEP/MED WG.476/4/Corr.2 “Mediterranean Offshore Guidelines and Standards: Common Standards and Guidance on the Disposal of Oil and Oily Mixtures and the Use and Disposal of Drilling Fluids and Cuttings” including, in square brackets and in footnotes, changes and comments proposed by one Contracting Party and one Partner in written form following the Meeting of the REMPEC Focal Points (Malta, 11-13 June 2019).

18. The meeting reviewed the document, focusing on the proposed changes and comments submitted prior to the meeting by one Contracting Party and one Partner (i.e. Israel and IOGP), which provided explanations and additional information on their proposed changes for consideration by the meeting.

19. One Contracting Party supported the establishment of a stricter approach for NADF limits, and the adoption of limits lower than the 1% oil content, provided for in the Guidelines.

20. One Contracting Party proposed to define lower discharge limits for gas production (i.e. TOG content not exceeding 15 mg/l average and 21 mg/l maximum – BTEX limited to 5mg/l average for 6 months and then BTEX limited to 0.3 mg/l maximum).

21. The Secretariat shared with the meeting participants an in-session revised version of the document reflecting the meeting discussions and the changes agreed. The meeting agreed on the revised version and requested the Secretariat to circulate it to the MAP and Offshore Protocol Focal Points and meeting participants, and, in the absence of any major comments received by 8th July at the latest, it recommended its submission to the MAP Focal Points Meeting for its consideration.

**c) Common Standards and Guidelines for Special Restrictions or Conditions for Specially Protected Areas (SPA) within the Framework of the Mediterranean Offshore Action**

22. Mr. Stavros Antoniadis, UNEP/MAP expert, presented the document UNEP/MED WG.476/5/Corr.2 “Mediterranean Offshore Guidelines and Standards: Common Standards and Guidelines for Special Restrictions or Conditions for Specially Protected Areas (SPA) within the Framework of the Mediterranean Offshore Action Plan” including, in square brackets and in footnotes, changes and comments proposed by one Contracting Party and one Partner in written form following the Meeting of the SPA/BD Thematic Focal Points (Portoroz, Slovenia 18-21 June 2019).

23. The meeting reviewed the document, focusing on the proposed changes and comments submitted prior to the meeting by one Contracting Party and one Partner (i.e. Israel and IOGP), which provided explanations and additional information on their proposed changes for consideration by the meeting.

24. The meeting agreed that offshore activities in Specially Protected Areas (SPAs) should not be encouraged and that all appropriate measures should be taken to prevent, abate, combat and control pollution resulting from offshore activities and if necessary, to prohibit offshore activities in SPAs.

25. One Contracting Party supported that the scope of the document should be expanded to apply also on potential SPAs, defined as areas where knowledge gaps exist regarding the presence or absence of sensitive habitats.

26. One Contracting Party recalled that stricter rules adopted at national level should prevail.
27. The meeting stressed that since general Guidelines for the conduct of EIA for offshore activities are developed, the Guidelines related to offshore activities in SPAs should not provide details on the EIA process, but make clear references to the respective EIA-related Guidelines.
28. One Contracting Party noted that the identification and designation of SPAs should be subject to agreement by the Contracting Parties.
29. The Secretariat shared with the meeting participants an in-session revised version of the document reflecting the meeting discussions and the changes agreed. The meeting agreed on the revised version and requested the Secretariat to circulate it to the MAP and Offshore Protocol Focal Points and meeting participants, and, in the absence of any major comments received by 8th July at the latest, it recommended its submission to the MAP Focal Points Meeting for its consideration.
30. One Partner shared the following statement: “*WWF Greece opposes any new oil and gas development as this is inconsistent with international efforts to keep global warming below 1.5 degrees in line with the Paris Agreement, and to limit risks of irreversible climate change impacts on species, biodiversity and people. In order to achieve this target, global oil and natural gas demand needs to be significantly reduced by 2030. WWF Greece also expresses its grave concern as regards to the emerging threat of new hydrocarbon exploration and exploitation projects in the Mediterranean, considering the serious environmental threat, for biodiversity and habitats that these projects pose. With respect to SPAs, we believe that oil and gas exploration and exploitation activities are inconsistent with their nature and conservation objectives, and should not therefore be allowed in these areas. This is in line with the approach of various contracting parties, which have enacted legislation prohibiting such activities within their SPAs. Already licensed oil and gas exploitation should be performed under stringent requirements and standards for all related activities including planning, operation, decommissioning etc.*”.

**Agenda item 4: Status of Implementation of the Mediterranean Offshore Action Plan and Recommendations for Potential Updates**

*UNEP/MED WG.476/6, UNEP/MED WG.476/Inf.7*

31. Mr. Stavros Antoniadis, UNEP/MAP expert, presented the document UNEP/MED WG.476/6 “Status of Implementation of the Mediterranean Offshore Action Plan and Proposed Recommendations for Further Streamlining of the Ecosystem Approach and other Regional and Global Developments”, and provided an overview of the status of implementation of the Action Plan’s Specific Objectives, recent developments under key regional and global processes since the adoption of the Action Plan and possible alternative options for the way forward.
32. The meeting acknowledged the progress in the implementation of the Mediterranean Offshore Action Plan and requested the Secretariat to continue and enhance the support for its implementation. In particular, Contracting Parties highlighted the need for more technical meetings to allow sharing of best practices, exchange of experiences and strengthening of national capacities for the implementation of the Protocol and the Action Plan.
33. The meeting highlighted the importance of taking into account new developments under the MAP Barcelona Convention, especially the Ecosystem Approach and Marine Spatial Planning (MSP) in the implementation of the Offshore Action Plan and requested the Secretariat, with support from REMPEC and other relevant MAP Components, to provide concrete advice and support to this direction.
34. The meeting stressed the need to develop a comprehensive plan of action including milestones, and sufficient resources for the effective implementation of the Mediterranean Offshore

Action Plan. In this respect, it recommended the Secretariat to strengthen its collaboration with the International Maritime Organisation (IMO) and the industry in order to provide additional support to the Contracting Parties in their implementation efforts.

**Agenda item 5: Possible Amendments to the Annexes of the Offshore Protocol**

*UNEP/MED WG.476/7, UNEP/MED WG.476/Inf.3, UNEP/MED WG.476/Inf.8*

35. Mr. Stavros Antoniadis, UNEP/MAP expert, presented the document UNEP/MED WG.476/7 “Review Regarding Possible Amendments to the Annexes of the Offshore Protocol”, highlighting that the purpose of this document is not to propose revisions at this stage but to support discussions on the potential initiation of a process for the amendment of the Offshore Protocol Annexes in the next biennium, providing an indicative list of possible revisions, derived from a multi-step review process undertaken during the last years by UNEP/MAP.

36. The meeting noted with appreciation the review undertaken by the Secretariat and agreed with the proposal to ask for a mandate at the next meeting of the Contracting Parties to launch a process of their update in line with the rules and regulations of the MAP system.

37. In order to ensure that all the actions agreed upon by the meeting will be effectively implemented and followed-up, the meeting requested the Secretariat to include in the proposed MAP Programme of Work 2020-2021 the required activities and provide adequate financial and human resources.

**Agenda item 6: Conclusions and Recommendations**

38. The participants reviewed, commented and approved the draft Conclusions and Recommendations, attached as Annex III to the present report.

**Agenda item 7: Any Other Business**

39. Ms. Wendy Brown, IOGP Environment Director, gave a brief presentation about IOGP and on OSPAR work relating to the regulation of offshore activities in the North-East Atlantic.

**Agenda item 8: Closure of the Meeting**

40. The President of the meeting in her closing remarks thanked the participants for their constructive contribution to the meeting. She also thanked the Secretariat for all efforts made to organize this effective meeting.

41. After the expression of usual courtesies, the President of the meeting declared the meeting closed at 15:00 p.m. on 28 June 2019.

**Annex I**  
**List of Participants**



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**SECRETARIAT TO THE BARCELONA CONVENTION AND COMPONENTS OF THE  
MEDITERRANEAN ACTION PLAN  
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**Annex II**  
**Agenda of the Meeting**

### **Agenda of the Meeting**

- Agenda item 1.** Opening of the Meeting
- Agenda item 2.** Adoption of the Agenda and Election of Officers
- Agenda item 3.** Mediterranean Offshore Guidelines and Standards:
- a) Guidelines for the Conduct of Environmental Impact Assessment (EIA);
  - b) Common Standards and Guidance on the Disposal of Oil and Oily Mixtures and the Use and Disposal of Drilling Fluids and Cuttings;
  - c) Common Standards and Guidelines for Special Restrictions or Conditions for Specially Protected Areas (SPA) within the Framework of the Mediterranean Offshore Action Plan.
- Agenda item 4.** Status of Implementation of the Mediterranean Offshore Action Plan and Recommendations for Potential Updates
- Agenda item 5.** Possible Amendments to the Annexes of the Offshore Protocol
- Agenda item 6.** Conclusions and Recommendations
- Agenda item 7.** Any Other Business
- Agenda item 8.** Closure of the Meeting

**Annex III**  
**Conclusions and Recommendations**

## **Conclusions and Recommendations**

1. The Meeting of the Second Meeting of the Barcelona Convention Offshore Oil and Gas Group (OFOG) Sub-Group on Environmental Impact was held on 27-28 June 2019, at UN Environment/MAP Barcelona Convention Secretariat premises, in Athens, Greece.
2. Following review and discussions of all agenda items, the Meeting agreed on the following deliberations, conclusions and recommendations:

### **Agenda item 3. Mediterranean Offshore Guidelines and Standards**

#### **Common Standards and Guidance on the Disposal of Oil and Oily Mixtures and the Use and Disposal of Drilling Fluids and Cuttings**

3. The meeting agreed on the revised version of the Mediterranean Offshore Guidelines and Standards: Common Standards and Guidance on the Disposal of Oil and Oily Mixtures and the Use and Disposal of Drilling Fluids and Cuttings, taking into account the changes introduced during the meeting, as presented in document UNEP/MED WG.476/L2. The meeting requested the Secretariat to circulate the revised version to MAP and Offshore Protocol Focal Points and meeting participants, and, in the absence of any major comments received by 8<sup>th</sup> July at the latest, it recommended its submission to the MAP Focal Points Meeting for its consideration.

#### **Common Standards and Guidelines for Special Restrictions or Conditions for Specially Protected Areas (SPA) within the Framework of the Mediterranean Offshore Action Plan**

4. The meeting agreed on the revised version of the Mediterranean Offshore Guidelines and Standards: Common Standards and Guidelines for Special Restrictions or Conditions for Specially Protected Areas (SPA) within the Framework of the Mediterranean Offshore Action Plan, taking into account the changes introduced during the meeting, as presented in document UNEP/MED WG.476/L3. The meeting requested the Secretariat to circulate the revised version to MAP and Offshore Protocol Focal Points and meeting participants, and, in the absence of any major comments received by 8<sup>th</sup> July at the latest, it recommended its submission to the MAP Focal Points Meeting for its consideration.

#### **Guidelines for the Conduct of Environmental Impact Assessment (EIA)**

5. The meeting took note of the revised version of the Mediterranean Offshore Guidelines and Standards: Guidelines for the Conduct of Environmental Impact Assessment (EIA), taking into account the changes introduced during the meeting, as presented in document UNEP/MED WG.476/L4. The meeting considered that the document required further review and invited Contracting Parties to the Barcelona Convention to provide additional proposals and suggestions on the document for its finalization and submission to the next OFOG meeting during the biennium 2020-2021.

### **Agenda item 4. Status of Implementation of the Mediterranean Offshore Action Plan and Recommendations for Potential Updates**

6. The meeting acknowledged the progress in the implementation of the Mediterranean Offshore Action Plan and requested from the Secretariat to continue and enhance its support. It recognized the need to strengthen the integration with work under other policy and regulatory instruments of MAP - Barcelona Convention. In this respect the meeting requested the Secretariat, with support from REMPEC and other relevant MAP Components, to provide concrete advice and support to the



Contracting Parties on strengthening its implementation. In the course of the implementation of the activities included in the Offshore Action Plan every effort will be made to take into account new developments under the MAP Barcelona Convention, especially Ecosystem Approach and Marine Spatial Planning (MSP).

7. The meeting stressed the importance of ensuring the development of a comprehensive plan of action including milestones, and sufficient resources for the effective implementation of the Mediterranean Offshore Action Plan. The meeting called for more technical meetings to allow Contracting Parties to share best practices, exchange experiences and strengthen their capacities for the implementation of the Protocol and the Action Plan. The meeting recommended that MAP, IMO and the industry collaborate to provide additional support to the countries for the implementation of the Offshore protocol and Action Plan.

#### **Agenda item 5. Possible Amendments to the Annexes of the Offshore Protocol**

8. The meeting noted with appreciation the review undertaken by the Secretariat regarding possible revisions to the Annexes of the Offshore Protocol and agreed with the proposal to ask for a mandate at the next meeting of the Contracting Parties to launch a process of their update in line with the rules and regulations of the MAP system.

#### **Agenda item 6. Conclusions and Recommendations**

9. The meeting requested the Secretariat to include in the proposed MAP Programme of Work 2020-2021 the required activities and adequate financial and human resources to ensure follow up of the conclusions and recommendations of the present meeting.

**Appendix 1. Mediterranean Offshore Guidelines and Standards: Common Standards and Guidance on the Disposal of Oil and Oily Mixtures and the Use and Disposal of Drilling Fluids and Cuttings (UNEP/MED WG.476/L2)**

## Table of Contents

<u>1. Use and disposal of drilling fluids and cuttings</u> .....	19
<u>1.1. Introduction</u> .....	19
<u>1.2. Legislative Background</u> .....	19
<u>1.3. Use and Disposal of Drilling Fluids and Cuttings</u> .....	19
<u>1.3.1 The Chemical Use Plan</u> .....	19
<u>1.3.2. Water Based Drilling Fluids</u> .....	20
<u>1.3.3. Non-Aqueous Based Fluids</u> .....	20
<u>1.3.4. Discharge of Cuttings Contaminated with Reservoir Fluids</u> .....	20
<u>2. Disposal of oil and oily mixtures</u> .....	21
<u>2.1. Introduction</u> .....	21
<u>2.2. Legal Background</u> .....	21
<u>2.3. Produced Water Discharges</u> .....	22
<u>2.3.1. Discharge Limits</u> .....	22
<u>2.3.2. Sampling</u> .....	22
<u>2.3.3. Analysis of Dispersed Oil Content and BTEX</u> .....	23
<u>2.4. Drainage System Discharges</u> .....	23
<u>2.4.1. Machinery Space Drainage Discharges</u> .....	24
<u>2.5. Produced Sand and Scale Discharges</u> .....	24
<u>2.6. Other Operational Discharges</u> .....	24
<u>Bibliography</u> .....	25

### **List of Abbreviations / Acronyms**

<b>BEP</b>	Best Environmental Practice
<b>BTEX</b>	Benzene, Toluene, Ethylbenzene and Xylene (ortho-xylene, meta-xylene and para-xylene)
<b>CEFAS</b>	The Centre for Environment, Fisheries and Aquaculture Science
<b>FPSOs</b>	Floating Production Storage and Offloading Facilities
<b>FSUs</b>	Floating Storage Units
<b>GC-FID</b>	Gas Chromatography and Flame Ionisation Detection
<b>GC-MS</b>	Gas Chromatography - Mass Spectrometry
<b>IFC</b>	International Finance Corporation
<b>IMO</b>	International Maritime Organisation
<b>IOGP</b>	International Association of Oil and Gas Producers
<b>IR</b>	Infra-red
<b>NADF</b>	Non-Aqueous Based Fluids
<b>NORM</b>	Naturally Occurring Radioactive Material
<b>OCNS</b>	Offshore Chemical Notification Scheme
<b>OSPAR</b>	Convention for the Protection of the Marine Environment of the North-east Atlantic
<b>PAH</b>	Polycyclic aromatic hydrocarbons
<b>SPA</b>	Specially Protected Areas
<b>WBM</b>	Water Based Drilling Fluids

## **1. Use and disposal of drilling fluids and cuttings**

### **1.1. Introduction**

1. This chapter of the document provides guidance on the use and disposal of drilling fluids and cuttings from offshore oil and gas installations in the Mediterranean Sea. This guidance has been derived from international best practices as outlined by organisations and institutions such as the Secretariat of the Convention for the Protection of the Marine Environment of the North-east Atlantic (OSPAR), International Finance Corporation (IFC)/World Bank and the International Association of Oil and Gas Producers (IOGP), as well as from countries with mature oil and gas industry with well-developed regulatory frameworks, such the UK, Norway, the Netherlands and the US.

### **1.2. Legislative Background**

2. All countries around the Mediterranean Sea have signed up to the Barcelona Convention. As such, the Barcelona Convention and its supporting Protocol on the Protection of the Mediterranean Sea against Pollution Resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and its Subsoil (Offshore Protocol), provide the overarching regional legal driver unpinning this guidance document.

3. Article 8 of the Offshore Protocol imposes a general obligation upon Operators to use the best available, environmentally effective and economically appropriate techniques. Operators should also observe internationally accepted standards regarding wastes, as well as for the use, storage and discharge of harmful or noxious substances and materials with a view to minimizing the risk of pollution. Articles 9 and 10 of the Protocol provide more specific requirements on the use and disposal of drilling fluids and cuttings.

4. This guidance document provides further definition/clarification to the general obligations outlined above.

### **1.3. Use and Disposal of Drilling Fluids and Cuttings**

#### **1.3.1 The Chemical Use Plan**

5. A Chemical Use Plan shall be prepared for the use of all drilling fluids by the Operator. The Chemical Use Plan must quantify and assess the environmental risk of each chemical additive that may potentially be used during the drilling, cementing and completion of the well. Subsequent well operations, including well intervention, workover, suspension and abandonment operations will be subject to similar requirements. The Chemical Use Plan should include all chemicals that will be onboard the drilling unit, comprising all operational as well as contingency chemicals. Only chemical additives that are approved for use by the Competent Authority may be used. In order to be approved by the Competent Authority all chemicals must be tested for toxicity, bioaccumulation and biodegradability. If the Competent Authority does not have a defined chemical authorisation system in place, the Offshore Chemical Notification Scheme (OCNS) chemical list used by the UK and the Netherlands should be used as a proxy. The Centre for Environment, Fisheries and Aquaculture Science (CEFAS) list of chemical additives is updated regularly and is available at: <https://www.cefas.co.uk/cefas-data-hub/offshore-chemical-notification-scheme/>.

6. The Chemical Plan shall be submitted to the Competent Authority for review and approval. Operations may only commence once the Competent Authority has issued a permit, specifying usage and discharge, and monitoring and reporting conditions.

### 1.3.2. Water Based Drilling Fluids

7. Water based drilling fluids (WBM) are the most commonly used drilling fluids. WBMs consist of water mixed with bentonite clay and barium sulphate (barite) to control mud density and thus, hydrostatic head. Other substances are added to gain the desired drilling properties (OGP, 2003<sup>1</sup>; IOGP, 2016<sup>2</sup>).

8. Effective solids control equipment shall be used to remove formation solids from the drilling fluid and to recover the used drilling fluid, so that it can be reused. Under most circumstances, used WBM and associated drill cuttings may be disposed of by discharging into the sea. A permit from the Competent Authority must be obtained for the usage and discharge of WBM offshore **and WBM cuttings**, as described in section 1.3.1 above.

### 1.3.3. Non-Aqueous Based Fluids

9. Non-aqueous based fluids (NADF) are regularly used to drill the deeper sections of wells when using NADF is considered advantageous over drilling with WBM as it can provide faster drilling rates, increased stability in water-sensitive rock formations and is more effective for drilling deviated, deep, high temperature wells. NADFs comprise all non-water and non-water dispersible base fluids, including mineral and synthetic oil base fluids (OGP, 2003; IOGP, 2016).

10. The use of NADF of sufficiently low toxicity (i.e. with a total aromatic hydrocarbon content < 5% and PAH content < 0.35%) is permitted for use in the deeper well sections (i.e. from the 12¼" section onwards). The use of diesel-based drilling fluids is prohibited.

11. The discharge of NADF to the sea is prohibited. Any unused or recovered NADF from the drilling operations shall be shipped back to shore, where it may either be reconditioned for re-use, or can be treated for appropriate disposal onshore. Alternatively, used NADF and NADF contaminated cuttings may be disposed of by re-injection into a suitable porous rock formation, if it can be proven this represents Best Environmental Practice (BEP) and if permitted to do so by the Competent Authority.

12. Drill cuttings contaminated with NADF may only be discharged if they are (thermally) treated and contain less than 1% oil content **by dry weight** (i.e. less than 10 grams of oil per kg of dry cuttings). The discharge point of the cuttings should be well below the surface of the water (i.e. at least 15 m below sea surface). The discharge of any drill cuttings contaminated with NADF in specially protected areas (SPA) is prohibited under all circumstances.

### 1.3.4. Discharge of Cuttings Contaminated with Reservoir Fluids

13. When drilling through reservoir sections of the well, cuttings from the payzone (oil-bearing formation) returned to the surface along with their associated drilling fluids may be contaminated with (small amounts of) liquid reservoir hydrocarbons (i.e. crude oil or condensate). Any cuttings and/or WBM contaminated with reservoir fluids should be contained and sent back to shore for appropriate treatment and disposal. Alternatively, these cuttings may be re-injected into a suitable formation, if possible to do so **or –if permitted by the Competent Authority, treated and cleaned to meet the environmental performance limits (see paragraph 12) so that they can be discharged to the sea. Permitted discharges should be monitored and subject to reporting to the Competent Authority.**

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<sup>1</sup> OGP, 2003. Environmental aspects of the use and disposal of non-aqueous drilling fluids associated with offshore oil & gas operations. International Association of Oil & Gas Producers. Report No. 342, May 2003.

<sup>2</sup> IOGP, 2016. Environmental fate and effects of ocean discharge of drill cuttings and associated drilling fluids from offshore oil and gas operations. International Association of Oil and Gas Producers. Report No. 543, March 2016.

## **2. Disposal of oil and oily mixtures**

### **2.1. Introduction**

14. This chapter of the document provides guidance on the disposal of oil and oily mixtures from offshore oil and gas installations in the Mediterranean Sea. This guidance has been derived from international best practices as outlined by organisations and institutions such as OSPAR, IFC/World Bank and IOGP, as well as from countries with mature oil and gas industry with well-developed regulatory frameworks, such the U.K., Norway, the Netherlands and the U.S.

15. Oil and oily mixtures are generated throughout various stages and processes onboard offshore oil and gas installations and will need to be managed and disposed of in a responsible manner. For example, drilling operations generating oil contaminated fluids include well clean-up, cementing, mud pit cleaning and operations where well bore fluids become contaminated with oil-based mud, crude oil or condensate. In addition, fluids from rig floor drains and other tank cleaning operations are also be included. During the production phase, the main sources of oil and oily mixtures will be produced water, produced reservoir sands and scales, and machinery space drainage.

### **2.2. Legal Background**

16. The Barcelona Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (“the Barcelona Convention”) and its Protocols provide the overarching environmental legal framework in the Mediterranean Sea Region.

17. The 22 Contracting Parties to the Barcelona Convention are: Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Monaco, Montenegro, Morocco, Slovenia, Spain, Syria, Tunisia, Turkey, and the European Union.

18. The Protocol for the Protection of the Mediterranean Sea against Pollution Resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and its Subsoil (adopted in 1994), entered into force in 2011. The Protocol, known as “The Offshore Protocol”, sets out specific commitments for the Contracting Parties to “take appropriate measures to prevent, abate, combat and control pollution in the Protocol Area resulting from activities, inter alia by ensuring that the best available techniques, environmentally effective and economically appropriate, are used for this purpose”.

19. One of the commitments in the Offshore Protocol is for the Contracting Parties to formulate and adopt common standards for the disposal of oil and oily mixtures from installations into the Protocol Area.

20. In addition to the specific requirements for the Contracting Parties set out in the Offshore Protocol, MARPOL Annex I, provides the worldwide standard for oil content of machinery space drainage from ships, as well as for fixed or floating platforms including drilling rigs, floating production, storage and offloading facilities (FPSOs) used for the offshore production and storage of oil, and floating storage units (FSUs) used for the offshore storage of produced oil. These fixed or floating platforms must comply with the same requirements applicable to ships having a gross tonnage of 400 or greater.

21. The Mediterranean Sea is designated as a “Special Area” under Annex I and is therefore subject to more stringent requirements than those that apply outside Special Areas.

### 2.3. Produced Water Discharges

22. The term “produced water” is used for formation water that is produced along with the oil from the reservoir, as well as for water that is condensed during the production process. Produced water is separated from the produced hydrocarbon fraction onboard the offshore installation.

23. Where possible, produced water should be re-injected back into the reservoir. If re-injection is not possible, then the produced water may be discharged under the permitting and reporting conditions described below.

#### 2.3.1. Discharge Limits

24. The discharge of produced water is allowed if the oil and grease content does not exceed 30 mg/l, as an average in any calendar month. The discharge concentration of oil in produced water shall not exceed 100 mg/l at any time.

25. The dilution of treated or untreated produced water for the purpose of lowering the average concentration of oil or achieving compliance with the performance standard is prohibited. If produced water is mixed with other waters after the treatment process, the Operator must be able to demonstrate that the original concentration of the oil content in the produced water can be measured, and the quantity of oil discharged can be calculated.

26. Batch discharges of produced water are permitted. A batch discharge is an intermittent discharge where treatment of produced water to remove oil takes place between batches, for example settlement/slops tanks with capability for oil removal.

#### 2.3.2. Sampling

27. The sampling strategy for dispersed oil in produced water depends on the volume of produced water discharged, and the type of installation. **The frequency and timing of sampling should make sure that samples are representative of the effluent, taking into account operational aspects and logistics.** For manned offshore installations which discharge continuously, the determination of the quantity of dispersed oil discharged should be based on the results **of continuous monitoring or at least two (2) times a day.** Samples should be taken at equal time intervals. The first sample should be taken within 4 hours of the start of the discharge, after which the minimum sample frequency shall be as detailed in the table, below.

28. The sampling point must be immediately after the last item of treatment equipment in, or downstream of, a turbulent region, and in any case before any subsequent dilution.

**Table 1. Oily Mixtures Discharged Per Discharge Point for Manned Installations**

Type of Discharge	Discharge Amount Per Annum	Sample Frequency and Analysis
Dispersed oil	< 2000 kg	Once a week
	≥ 2000 kg	Every second day
BTEX	< 200 kg	Twice a year
	200 kg to 2000 kg	Once every quarter (i.e. 4 times per year)
	≥ 2000 kg	Once per week



BTEX = Benzene, toluene, ethylbenzene and xylene (ortho-xylene, meta-xylene and para-xylene)

29. In addition to the dispersed oil content, produced water may also contain dissolved hydrocarbons (PAH and phenols), heavy metals, inorganic compounds from the formation (both dissolved salts and precipitates) and Naturally Occurring Radioactive Material (NORM). Therefore, the concentration of heavy metals and PAH compounds, BTEX, phenols, alkyl phenols and carboxylic acids in discharges should also be determined as part of the analysis of produced water.

30. **These pollutants should be limited, including adding recommendation for standards or recommendation to use technology that can reduce polluting substances (BAT) [to comply with the environmental limits applicable in each Contracting Party according to their national legislation]<sup>3</sup>.**

### 2.3.3. Analysis of Dispersed Oil Content and BTEX

31. The dispersed oil content in produced water should be determined by means of gas chromatography and flame ionisation detection (GC-FID), as described in OSPAR Agreement 2005/15. This method is designed for produced water and other types of waste water discharged from gas, condensate and oil platforms and allows the determination of the dispersed oil content in concentrations above 0.1 mg/l.

32. The OSPAR produced water analysis reference method is a modified version of the ISO 9377-2 method. This method is to be used only for the determination of dispersed oil in produced water. This method is not to be used for the determination of oil in other discharges for oil on sand, drains discharges, etc. Details of this sample analysis method are published in: 'Oil in Produced Water Analysis – Revised Guideline on Criteria for Alternative Methods Acceptance and General Guidelines on Sample Taking and Handling – OSPAR Agreement 2006-6'.

33. For certain instances, there may be scope to use a simpler analysis method offshore if that has been correlated against the OSPAR Reference Method in an onshore laboratory. Therefore, a suitable Infra-red (IR) analysis method (or other analysis methods) may be accepted as an 'alternative' analysis method, but only if it is correlated against the OSPAR Reference Method.

34. Additional guidance on alternative sampling methods can be found in a guidance document published by the UK Department of Energy and Climate Change: Methodology for the Sampling and Analysis of Produced Water and Other Hydrocarbon Discharges (DECC, 2014).

35. The 'BTEX content' should be determined by taking the sum of the levels of BTEX obtained by the application of the static headspace method described in ISO 11423-1, using gas chromatography - mass spectrometry (GC-MS) or another method that produces equivalent results. The amount of BTEX should be calculated on the basis of the quantity of water per year (m<sup>3</sup>) and the yearly flow-weighted average values of BTEX analysed in the produced water discharged into the sea.

### 2.4. Drainage System Discharges

36. Discharges from drainage systems (open/closed, hazardous/non-hazardous discharge to a 40 mg/l monthly average oil concentration limit **or maximum values - 30 mg / l Total Petroleum Hydrocarbon (TPH)/ Total Oil & Grease (TOG) and 15 mg / l mineral oil.**

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<sup>3</sup> The text in square brackets is to be further reviewed by the MAP Focal Points Meeting.

### 2.4.1. Machinery Space Drainage Discharges

37. Because the MARPOL Annex I standards for machinery space drainage (such as slops and bilges) are already implemented worldwide, no additional requirements are required for with regard to drainage of drilling rigs and platforms.

38. The following MARPOL requirements should be met:

- The drilling rig or platform must be equipped “as far as practicable” with the oil filtration equipment and the discharge of oil or oily mixtures from machinery drainage spaces is prohibited unless the oil content does not exceed 15 ppm;
- All facilities are required to keep a record of all operations involving oil or oily mixture discharges;
- Oil filtering equipment must be of an approved design by the Administration, must be provided with an alarm arrangement to indicate when the 15-ppm level cannot be maintained, and must ensure that any discharge of oily mixtures is automatically stopped when the oil content exceeds 15 ppm.

39. For further information, the Revised Guidelines and Specifications for Pollution Prevention Equipment for Machinery Space Bilges of Ships are contained in resolution MEPC.107(49). The IMO maintains a list of approved oil filtering equipment.

**40. For new and future installations, sampling of the Open Drain System collected waste should be undertaken once a month.**

### 2.5. Produced Sand and Scale Discharges

41. Annex V (A.2) of the Offshore Protocol states that all “Oily waste and sludges from separation processes shall be transported to shore”.

42. Therefore, any reservoir sand and production scales contaminated with oil (e.g. sludges or slurries removed from processing vessels) should be transported to shore for appropriate treatment and disposal.

### 2.6. Other Operational Discharges

43. Most discharges of oil will normally be routed to the production process, produced water treatment system, or to the drainage systems, and will be treated to minimise the discharge of oil. Therefore, such discharges will be subject to the same discharge limits for produced water and drainage systems, as discussed in Sections 2.3 and 2.4 above. For example, displacement water (ballast water) from storage facilities for oil is subject to the same discharge requirements as produced water.

44. Notwithstanding the above, it is accepted that certain operations may result in a separate discharge of oil into the marine environment, for example during certain types of maintenance or sub-sea pipeline operations e.g. installation tie-in, commissioning and decommissioning operations. In all cases where such a discharge of oil is planned, the Operator must obtain a permit/consent from the Competent Authority. Each permit application should contain sufficient information to allow an assessment of the potential environmental impacts and to justify the proposed discharge.

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OSPAR Agreement 2006-6. *Oil in produced water analysis - Guideline on criteria for alternative method acceptance and general guidelines on sample taking and handling*.

OSPAR Agreement 2017-03. *Guidelines for the Sampling and Analysis of Cuttings Piles*.

**Appendix 2. Mediterranean Offshore Guidelines and Standards: Common Standards and Guidelines for Special Restrictions or Conditions for Specially Protected Areas (SPA) within the Framework of the Mediterranean Offshore Action Plan (UNEP/MED WG.476/L3)**

## Table of Contents

1. Introduction .....	29
2. Geophysical Survey .....	29
2.1. Permitting .....	29
2.2. Conduct of the Geophysical Field Survey .....	29
3. Offshore Drilling Operations .....	31
3.1. Permitting .....	31
3.2. Siting .....	31
3.3. Conduct of Drilling Activities .....	31
4. Field Development .....	32
4.1. Permitting .....	32
4.2. Offshore Activities .....	32
5. Decommissioning .....	33

### List of Abbreviations / Acronyms

<b>BWM Convention</b>	Ballast Water Management Convention
<b>EIA</b>	Environmental Impact Assessment
<b>IMO</b>	International Maritime Organization
<b>IPIECA</b>	International Petroleum Industry Environmental Conservation Association
<b>JNCC</b>	Joint Nature Conservation Committee (UK government advisory body)
<b>MARPOL</b>	International Convention for the Prevention of Pollution from Ships
<b>OSPAR</b>	Convention for the Protection of the Marine Environment of the North-east Atlantic. (Oslo Paris Commission)
<b>PAM</b>	Passive acoustic monitoring
<b>ROV</b>	Remotely-operated vehicle
<b>SPA</b>	Specially Protected Areas
<b>SPAMI</b>	Specially Protected Area of Mediterranean Importance

## 1. Introduction

1. This present document provides guidelines for special restrictions or conditions to offshore activities for Specially Protected Areas (SPAs), **as provided for in the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean, and any other areas established by the Parties, as appropriate, as provided for in the article 21 of the Offshore Protocol**, with particular reference to the offshore oil and gas industry as an example of an exploration and exploitation industry relevant to the Offshore Protocol. They are drawn from a review of existing best practices and industry and statutory guidance that is already in place in countries with mature oil and gas industries and reflect a range of measures that have been implemented or recommended to mitigate for potential adverse effects of explorative and exploitative activities on valued habitats and species both in the Mediterranean and worldwide.

2. The guidelines cover the full range of development life cycle stages of offshore activities including the initial geophysical survey, exploratory drilling, field development and decommissioning and contribute to the harmonisation of working practices across Contracting Parties in accordance with Specific objectives, 3, 7 and 8 of the Mediterranean Offshore Action Plan in the framework of the Protocol for the Protection of the Mediterranean Sea against Pollution resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and its Subsoil (Decision IG.22/3). The following guidelines are provided for key aspects of the different development phases of offshore developments.

## 2. Geophysical Survey

### 2.1. Permitting

3. Underwater sound produced during geophysical surveys has the potential to disturb protected marine species including mammals, reptiles and fish resulting in physiological damage or alterations in behaviour. Therefore, where proposed, geophysical surveys should be permitted and approved by the relevant Competent Authority using the most up to date knowledge of the spatial and temporal distributions and life cycle stages of protected species within the proposed area of investigation so that sensitive locations and periods can be avoided.

4. Geophysical surveys should be undertaken during the least sensitive period, in terms of spawning, nesting and migration of protected species and as agreed with the Competent Authority prior to the commencement of the survey. Peak spawning, nesting and migration periods should be avoided.

5. Prior to the issue of permits for geophysical survey, survey contractors or project proponents should adequately demonstrate to the Competent Authority the need for the conduct of the proposed geophysical survey and the alternatives considered.

### 2.2. Conduct of the Geophysical Field Survey

6. IPIECA **OGP Report 436** and Ballast Water Management Convention guidelines together with Strategic Priorities and Actions of the Mediterranean Strategy on Ship's Ballast Water Management should be adhered to during marine geophysical surveys and the following measures should be adopted:

- Local vessels should be used for the conduct of the geophysical survey **where possible**. This includes the survey vessels used for the deployment of geophysical equipment as well as chase vessels which are used to protect seismic cables and other towed equipment;
- Vessels used during geophysical survey should be restricted to those which have documented non-native species capabilities, such as ballast water treatment and management systems, in accordance with the IMO's International Convention for the Control and Management of Ship's Ballast Water and Sediments;
- A review of marine species records for the presence of alien invasive species in ports that are to be used for the mobilisation and demobilisation of geophysical surveys should be undertaken prior to the commencement of the survey, the findings of which should be reported to the Competent Authority as part of the permit application;
- In light of species inventory data for mobilisation and demobilisation ports, the vessel non-native species capabilities, the vessel origin and the intended area of **the activity**, a risk assessment of the potential for the introduction and spread of alien invasive species due to the intended survey should be conducted and reported to the competent authorities prior to the commencement of the survey and as part of the permit application. Risk assessments should refer to relevant emerging research on the relationships between vessel traffic and invasive alien species;
- IPIECA guidelines on minimising the risk of introducing and spreading alien species should be adopted and vessels should adhere to the requirements of the BWM Convention, as appropriate. Removal of biofouling from vessel hulls, equipment, rigs, and plant should be conducted at the source of the biofouling and in a way that does not increase the risk of the further spread of non-native species. Where appropriate the Guidelines for the control and management of ships' biofouling to minimize the transfer of invasive aquatic species (Biofouling Guidelines) (resolution MEPC.207(62)) shall be implemented.

7. Geophysical surveys should be conducted using the lowest sound intensities and over the smallest geographical area possible.

8. In the absence of national guidance, and for high seas areas beyond national jurisdictions, [JNCC Seismic Survey Guidance](#) for the mitigation of potential effects to marine mammals should be referred to, **taking into account special local circumstances**. Certified observers should conduct searches from a sufficiently high platform to monitor a mitigation zone of 500 m around the sound source for the presence of sensitive species for a minimum of 30 minutes in waters < 200 m deep or 60 minutes in waters > 200 m deep during each soft-start and prior to the noise emitting survey equipment operating at full energy. **If marine mammals, cetaceans or turtles are detected within the mitigation zone during the pre-shooting search (visually or acoustically), the soft-start must be delayed until their passage, or the transit of the vessel, results in them being outside of the mitigation zone. There must be a minimum of a 20-minute delay from the time of the last detection within the mitigation zone and the commencement of the soft-start.** Shooting may continue if a marine mammal is observed within the mitigation zone after shooting has commenced. Passive acoustic monitoring (PAM) equipment should be used by trained personnel to detect the presence of marine mammals during periods of darkness and poor visibility. Procedures for line turns should be agreed with the relevant Competent Authority, or as per 2017 JNCC advice. **Documentation of the soft start must be presented to the Competent Authority during and after the survey as proof of the soft start being done.**



9. Turtles have the potential to become entangled in tail buoys during field surveys causing physiological damage and mortality. Therefore, guards should be fitted to all tail buoys used during field surveys in areas likely to support turtles i.e. near known turtle nesting and feeding sites. **Turtle entanglement preventing gear must be used by the survey vessel.**

10. Vessels should comply with MARPOL guidelines for the control of oily discharges, recognising the extra levels of controls imposed under the IMO designation of the whole Mediterranean Sea as a Special Area.

### **3. Offshore Drilling Operations**

#### **3.1. Permitting**

11. **Activities within SPAs and any other areas established by the Parties, as appropriate, as provided for in the article 21 of the Offshore Protocol should be subject to an EIA as per article 17 of the SPA/BD Protocol**, and may only be undertaken in accordance with individually assigned permit conditions.

12. Concentrations of all chemicals and substances proposed to be discharged should be identified, quantified and risk assessed in a permit application, **as referred to in the MAP Guidelines for the conduct of EIA**, prior to the commencement of offshore **activities**. The Competent Authority will review the permit application and only issue consent once satisfied no significant environmental effects will result from the planned **activities**, with particular consideration being given to the conservation objectives for which the **SPA and any other areas established by the Parties, as appropriate, as provided for in the article 21 of the Offshore Protocol are** designated.

#### **3.2. Siting**

13. Wells and other seabed infrastructure should be sited in areas that cause the least damage to sensitive habitats and species, as far as this is practicable, and in consideration of other potential seabed impacts, such as anchor positioning.

14. Wells and other seabed infrastructure should be sited in consideration of the potential interest features of specially protected areas that are likely to be designated in the future, for example proposed offshore SPAMIs, as far as is practicable.

#### **3.3. Conduct of Drilling Activities**

15. Exploratory drilling activities should be adopted or adapted for use in Mediterranean situations including the following measures:

- Use dynamic positioning rigs to avoid the use of mooring anchors in potential sensitive seabed areas;
- Pre-lay anchors prior to the arrival of the rig to achieve accuracy in positioning of anchors and chains and to avoid corals and environmentally sensitive habitats;
- Avoid grappling for pick-up of anchor chains and to employ ROV or pick up buoys for this purpose;
- Replace anchor chains in part by fibre (nylon) wire and make buoyant by attaching buoys to the fibre wire to avoid interference with sensitive seabed features;

- Use larger, heavier anchor or larger dimension anchor chain to reduce the chain length to reduce the footprint and add flexibility in anchor positioning.

16. Methods for monitoring drilling activities in specially protected areas **and any other areas established by the Parties, as appropriate, as provided for in the article 21 of the Offshore Protocol**, should be specific to the features for which the site is designated and draw upon existing standards where suitable (e.g. PERSGA/GEF, 2004). **Monitoring programs should include methods for detecting previously unknown sensitive habitats that might be affected from the activity, for example side scan sonar and ROV surveys of sonar targets.**

17. The Common Standards and Guidance on the Disposal of Oil and Oily Mixtures and the Use and Disposal of Drilling Fluids and Cuttings (UNEP/MED WG.476/4) provides guidance on the use and disposal of drilling fluids and cuttings and should be referred to when proposing offshore drilling activities. In particular, the environmental profile of drilling fluids and other chemical additives should be considered, and the least environmentally harmful alternatives should be chosen, where possible. The discharge of drill cuttings and non-aqueous (oil) based drilling fluids is prohibited in SPAs.

18. MARPOL guidance should be adhered to as a minimum standard regarding the control of wastes, oily discharges and ballast waters recognising the extra levels of controls imposed under the IMO designation of the whole Mediterranean Sea as a Special Area.

19. Dedicated spill response resources should be kept at a suitable onshore site if drilling occurs inside or close to a specially protected area, **and any other areas established by the Parties, as appropriate, as provided for in the article 21 of the Offshore Protocol**, in accordance with the requirements of the Offshore Protocol. Where appropriate, additional local resources should be considered to enhance oil spill resilience and contingency planning.

#### **4. Field Development**

##### **4.1. Permitting**

20. Discharge concentrations of all chemical additives proposed to be discharged should be identified, quantified and risk assessed in a permit application prior to the commencement of **activities**. The Competent Authority will review the permit application and only issue consent once satisfied no significant environmental effects will result from the planned **activities, as referred to in the MAP Guidelines for the Conduct of EIA.**

21. Any permit application for **activities** inside or close to a special protection area will require a scientifically robust environmental assessment, **in line with the MAP Guidelines for the Conduct of EIA.**

##### **4.2. Offshore Activities**

22. Contracting Parties should spatially or temporally restrict or prohibit discharges in sensitive areas or during important life cycle stages and should minimise flaring during critical bird migration periods.

23. The environmental profile of chemical additives should be considered and the least environmentally harmful alternatives should be chosen, where possible.
24. All discharges to sea shall be monitored and reported to the Competent Authority, in line with consent conditions.
25. Use of biologically relevant species is recommended for ecotoxicological and bioaccumulation studies. A list of key indicator species should be developed and agreed for specific habitat types and regions for the purposes of condition monitoring, as necessary.
26. Incorporation of site-specific environmental monitoring with regional programmes should be **adopted**, where appropriate, to allow for the interpretation of data within the wider context. Monitoring equipment should be appropriate to the habitat and species being monitored. Non-destructive sampling techniques, such as video and photography surveillance via remote or diver techniques is recommended in hard substrate areas, sea grass beds and areas where a high density of sensitive species occur.
27. Pipelines, cables, coastal intakes and outfalls, jetties, moorings and other seabed structures should not directly impact on biologically sensitive species and habitats. Sediment plumes arising from seabed construction works should be minimised as far as practicable. Minimum separation zones or the use of turbidity curtains should be used where relevant to protect key habitats and species from predicted adverse sediment impacts, as agreed with the Competent Authority. **In cases where sedimentation due to dredging is suspected to reach a sensitive habitat, an Environmental Monitoring and Management Program (EMMP) needs to be established. The EMMP needs to include online monitoring of turbidity, with an ability to respond in the field when turbidity between the works and a sensitive habitat rises above ambient levels, so as to prevent the sedimentation cloud to reach the habitat.**
28. Light emissions should be reduced as far as practicable in line with existing [OSPAR Guidance \(Guidelines to reduce the impact of offshore installations lighting on birds in the OSPAR maritime area \(OSPAR Agreement, 2015-08\)\)](#).
29. Dedicated spill response resources should be kept at a suitable onshore site if the development is within or close to a specially protected area **and any other areas established by the Parties, as appropriate, as provided for in the article 21 of the Offshore Protocol**, in accordance with the requirements of the Offshore Protocol. Where appropriate, additional local resources should be considered to enhance oil spill resilience and contingency planning.

## 5. Decommissioning

30. All platform structures should be removed from within the boundaries of specially protected areas unless there are over-riding and agreed reasons why these should remain in situ, in which case their suitability for conversion to a reef should be assessed.
31. All process fluids, fuel oils, produced solids and other chemicals and lubricating oils are to be drained or flushed from the decommissioned items and transported to shore for disposal.

32. Pipelines should be subject to a comparative assessment to determine the most suitable decommissioning options from those outlined in Article 20.2 of the Offshore Protocol.
33. Cuttings piles on the seabed should remain in situ on decommissioning unless there are significant over-riding reasons for removal.
34. The use of mechanical cuttings tools should be favoured over the use of explosives. If explosives are used, their use should be fully justified and supported by an assessment of the potential impact on protected and sensitive species and which should form part of the EIA and licence application. [JNCC Guidelines](#), or similar, should be used to mitigate effects on protected species.
35. Post-decommissioning environmental seabed surveys should be undertaken. The scope and number of repeat decommissioning environmental surveys should be **risk-based and** developed in consultation with the relevant Competent Authority.
36. Post-decommissioning debris search and removal surveys of the site should be conducted to ensure that no debris remains on the seabed. The surveys should cover an area of 500 m radius around the site of the decommissioned installation and 100 m either side of any decommissioned pipelines.

**Appendix 3. Mediterranean Offshore Guidelines and Standards: Guidelines for the Conduct of Environmental Impact Assessment (EIA) (UNEP/MED WG.476/L4)**

## Table of Contents

1. Introduction .....	38
2. EIA Screening – When is an EIA Required? .....	38
2.1. Obtaining a Screening Opinion .....	38
2.2. Activities requiring an EIA .....	39
2.3. Activities requiring an environmental assessment not necessarily through the EIA procedure (hereinafter referred to as environmental assessment) .....	39
2.4. Exemptions for Undertaking an EIA.....	39
3. EIA Guidance for Offshore Activities.....	40
3.1. EIA Terminology .....	40
3.2. The EIA Process.....	42
3.3. Scoping.....	43
3.4. Impact Assessment Methodology Framework .....	44
3.5. Mitigation Measures and Residual Effects.....	47
3.6. Cumulative Effects.....	48
3.7. Baseline Data Collection .....	48
3.8. Assessment of Impacts and Effects .....	50
3.9. Mitigation and Monitoring .....	51
3.10. The Environmental Impact Assessment Report .....	51
3.11. Regulator Review and Public Consultation.....	52
3.12. Decision Making (Consenting) .....	52
4. Guidance for the conduct of environmental assessment as per section 2.3.....	53
4.1. Permitting.....	53
4.2. Permitting for the Use and Discharge of Chemical Additives .....	54
4.3. Regulator Review and Consultation.....	56
4.4. Decision Making (Consenting) .....	57
4.5. Bibliography.....	57

**List of Abbreviations / Acronyms**

<b>CHARM</b>	Chemical Hazard and Risk Management
<b>EBS</b>	Environment Baseline Survey
<b>EIA</b>	Environmental Impact Assessment
<b>EMP</b>	Environmental Management Plan
<b>HMCS</b>	Harmonised Mandatory Control Scheme
<b>HOCNF</b>	Harmonised Offshore Chemical Notification Format
<b>LSPC</b>	List of Substances of Possible Concern
<b>MEBS</b>	Marine Environment Baseline Survey
<b>OCF</b>	Operator Compliance Factsheets
<b>OCNS</b>	Offshore Chemical Notification Scheme
<b>OFOG</b>	Barcelona Convention Offshore Oil and Gas Group
<b>PEC</b>	Predicted Environmental Concentration
<b>PLONOR</b>	Pose Little or No Risk to the Environment
<b>PNEC</b>	Predicted No-effect Concentration
<b>ROV</b>	Remotely-operated vehicle
<b>RQ</b>	Risk Quotient
<b>SPR</b>	Source-Pathway-Receptor
<b>ESIA</b>	<b>Environmental and Social Impact Assessment</b>

## 1. Introduction

1. The aim of this document is to provide guidance on practical methods and approaches to assess impacts and effects on the environment of **activities as provided for in article 1.d points ii and iii of the Offshore Protocol**. The guidelines are not intended to be formal or prescriptive and are designed to support the development of an approach which is appropriate to an individual activity, and to consider subsequent impacts and effects as an integral part of the Environment Impact Assessment (EIA) process. **Stricter relevant provisions existing in Contracting Parties' legislation and or regulatory systems prevail**. The guidance provides advice on the EIA process and suggests methods and tools for identifying and assessing impacts, effects and risk to the environment. **It is recommended that the relevant Competent Authority undertake Strategic Environmental Assessment (SEA) prior to licensing oil and gas activities. The SEA is important as an assessment tool for area-based planning, formulation of governmental strategies and identification of data gaps at an early stage prior to licensing.**

### 2. EIA Screening – When is an EIA Required?

2. Screening is a process which determines whether an EIA is required for a particular activity. This is determined by the Competent Authority **in the absence of any legal provision specifically requiring an EIA**. The process of screening occurs in the initial development stages of the activity.

3. **During the screening process, the following criteria should be used to determine whether an EIA is required:**

- a. Physical presence;
- b. Production of wastes and relevant emissions, discharges and expected residues;
- c. Production of underwater noise;
- d. The use of natural resources;
- e. The characteristics of the activity (e.g. size and design of the whole activity, cumulation with other existing and/or approved activities, use of natural resources, production of waste, pollution and nuisances, risk of major accidents and/or disasters which are relevant to the activity concerned, risks to human health etc.);
- f. The cumulation with other activities;
- g. The risk of accidental events;
- h. Location of the activities, close to or within an environmentally sensitive geographic area (including relative abundance, availability, quality and regenerative capacity of natural resources in the area and its underground; absorption capacity of the natural environment);
- i. Type and characteristics of the potential impacts (e.g. magnitude and spatial extent, nature, transboundary nature, intensity and complexity, probability, expected onset, duration, frequency and reversibility, cumulation of the impact with the impact of other existing and/or approved activities, possibility of effectively reducing the impact).

#### 2.1. Obtaining a Screening Opinion

4. A formal screening opinion **is required** from the Competent Authority concerning the need for an EIA. The Competent Authority will identify whether or not an activity is likely to have significant effects on the environment. If significant effects are considered likely, then an EIA will be required.

5. Where a formal screening opinion has been made by the Competent Authority, the screening opinion, **including a statement of the main reasons for the requirement or not of an EIA, statement** should be recorded and made available to the public.



## 2.2. Activities requiring an EIA

6. The minimum thresholds for activities requiring EIA presented below apply in cases where there are no national thresholds in place. They may also apply as appropriate in addition to any specific national criteria already in place. Those minimum thresholds include but are not limited to:

- a. Large-diameter oil and gas pipelines which **are likely to cause significant adverse impacts and/or** transboundary impacts;
- b. Offshore hydrocarbon **exploration or exploitation which are likely to cause significant adverse impacts and/or** transboundary impacts;
- c. The extraction of 500 tonnes or more of oil per day or 500,000 m<sup>3</sup> or more of gas per day otherwise than as a by-product of the drilling or the testing of any well;
- d. The construction of **transportation** pipelines, where the pipeline is more than 40 km in length and the diameter of the pipeline is more than 800 mm;
- e. Any change to or extension of the above activities, where the change or extension itself meets the thresholds;
- f. Activities which could have significant effect on a formally designated protected area (e.g. Specially Protected Area), **including the use of airguns or explosives.**

## 2.3. Activities requiring an environmental assessment not necessarily through the EIA procedure (hereinafter referred to as environmental assessment)

7. The thresholds for activities requiring an environmental assessment but not through the EIA procedure, presented below, apply in cases where there are no national thresholds in place. They may also apply as appropriate in addition to any specific national criteria already in place. Those thresholds include but are not limited to:

- a. The extraction of less than 500 tonnes of oil per day or less than 500,000 m<sup>3</sup> of gas per day, or for an increase in a currently consented level of production that is below those thresholds;
- b. Deep drilling of a well or borehole for the purposes of, or in connection with the getting or storage of petroleum;
- c. The use of a mobile installation for the testing of a well;
- d. The use of a mobile installation for the purpose of carrying out test injections of combustible gas;
- e. The construction, amendment or augmentation of **transportation** pipe-lines where the pipeline is less than 40 km in length and the diameter of the pipeline is less than 800 mm.
- f. **The activities which require the use of airguns or explosives, during geophysical survey.**

8. However, each individual activity should be reviewed on their individual merits, whereby the Competent Authority will determine the requirements for an EIA as part of the **screening** decision. [For example, in Italy an EIA is required for geophysical surveys, when using airguns or explosives.]<sup>4</sup> **In addition, following the outcomes of the environmental assessment, the competent authorities reserve the right to request an EIA procedure.**

## 2.4. Exemptions for Undertaking an EIA

9. Where the sole purpose of the activity is that of national defence or a **response to** civil emergency and, in the opinion of the Competent Authority, complying with the EIA requirements would have an adverse impact on that purpose, an **activity** may be exempt from undertaking an EIA **on a case-by-case basis and if so provided under the national law.**

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<sup>4</sup> Part in square brackets to be further reviewed by the Parties.

### 3. EIA Guidance for Offshore Activities

#### 3.1. EIA Terminology

10. This section defines terms that are relevant to the EIA methodology framework. Technical studies may use topic-specific terminology that differs from these definitions and these should be clearly defined.

11. Baseline: the **current** state of the environmental, socio-economic or cultural domain prior to project construction or operation. The baseline incorporates the specific area of the **activity** and the surrounding and interconnected areas and components of the environment.

**12. Study area: The characterization of each environmental theme must be extended to the whole large area with specific in-depth information relating to the site area.**

1. **A [large area]<sup>5</sup> and area of the site can take on different dimensions / shapes depending on the environmental topic analysed. The [large / vast area]<sup>3</sup> is the portion of territory in which the significant effects, direct and indirect, of the intervention are exhausted with reference to the environmental theme considered. The thematic maps accompanying the study must be extended to the vast area, on a scale adequate to the understanding of the phenomena.**
2. **The site area includes the surfaces directly affected by the interventions in the activity and a significant area around such that it can understand the phenomena in progress or expected. In-depth investigations can be limited to the site area.**

13. Receptor: a specific component of the baseline environment or socio-economic domain that will be, or is 'likely' to be, affected by the impacts or effects of the **activity**. This could be a single entity such as a species or community, or a conceptual grouping such as a population or subset of an ecosystem **or an ecosystem itself**. A receptor may be affected only by the specific **activity** proposed, or by the proposed **activity** and other relevant **activities** in combination.

14. Source: the source of an impact. This will be an aspect of the **activity**, and will typically be **activity**-related **actions**, or a direct result of the development **of the activity**.

15. Pathway: a mechanism or series of interactions that results in an impact upon a final receptor. Pathways may be physical, chemical, biological or ecological processes or interactions, and may include intermediate stages.

16. Source-Pathway-Receptor Analysis: a formal approach to assessing the flow of changes and consequences from a source of impacts to all final receptors. Analysis incorporates the best current scientific understanding of the processes involved, logical cause-and-effect, and considers the relevant characteristics of all receptors and interactions.

**17. Likelihood: probability of occurrence**, which does not imply that something is necessarily probable or certain. However, all **potential** impacts and effects must be considered in the EIA process **and their environmental risk should be evaluated in terms of evaluation of their consequences and likelihood of occurrence**.

18. Impact: the predicted, **measurable** changes in environmental conditions as a direct result of a **activity** -related **action**. Impacts are frequently constrained to the physical and chemical domains but may also include biological aspects. Changes should be measurable, quantified or estimated in

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<sup>5</sup> Part in square brackets to be reviewed and agreed by the Parties based on further advise/ clarification by the Secretariat.

relevant units where possible, and defined as positive or negative. Predictions should be relative to the baseline, and incorporate any natural variability:

- a. Positive: a positive impact will cause an increase to the baseline condition of a receptor, such as an increase in the number of jobs in a given area;
- b. Negative: a negative impact will cause a decrease to the baseline condition of a receptor, such as a decrease in the area of a given habitat;
- c. Direct: an impact that is the direct result of an **activity-related action**. Direct impacts are likely to be spatially or temporally concurrent;
- d. Indirect: an impact that is an indirect or secondary result of a **activity-related action**. Indirect impacts are likely to be spatially or temporally removed from the direct impacts
- e. **Temporary impact: an impact that is lasting for only a limited period of time and is not permanent;**
- f. **Permanent impact: an impact that is lasting or intended to last or remain unchanged indefinitely.**
- g. **Reversible impact: an impact that can be reversed either by the regenerative power of the environment or by mitigation measures;**
- h. **Irreversible impact: an impact that cannot be reversed either by the regenerative power of the environment or by mitigation measures.**

19. Effect: the environmental, ecological, socio-economic or cultural consequence of **activity-related impacts** upon receptors of concern. Consequences are defined as beneficial or adverse. Predictions should be relative to the baseline, and incorporate any natural variability:

- a. Beneficial: a beneficial effect is one that improves the baseline conditions of receptors of concern e.g. increases in populations of rare or protected species, increases in the area or quality of habitats, or increases in local and regional economic activity;
- b. Adverse: an adverse effect is one that worsens the baseline conditions of receptors of concern e.g. decreases in populations of rare or protected species, reductions in the area or quality of important or protected habitats or sites, or decreases in local and regional economic activity;
- c. Direct: an effect that is the direct consequence of an **activity-related impact**;
- d. Indirect: an effect that is an indirect or secondary consequence of an **activity-related impact**. Indirect effects are likely to be spatially or temporally removed from the direct impacts;
- e. **Temporary effect: an effect that is lasting for only a limited period of time and is not permanent;**
- f. **Permanent effect: an effect that is lasting or intended to last or remain unchanged indefinitely;**
- g. **Reversible effect: an impact that can be reversed either by the regenerative power of the environment or by mitigation measures;**
- h. **Irreversible effect: an impact that cannot be reversed either by the regenerative power of the environment or by mitigation measures.**

20. Interacting Effects: multiple effects upon a single receptor may interact in a number of ways, including:

- a. Additive Effects: the sum of all effects e.g. multiple impacts which would individually cause a population reduction, add together to produce a larger population reduction;
- b. Synergistic Effects: an interaction of effects upon a single receptor that causes an overall effect that is greater than the sum of the individual effects;
- c. Antagonistic Effects: an interaction of effects upon a single receptor that causes an overall effect that is less than the sum of the individual effects;
- d. In Combination Effects: effects arising from an individual development in combination with effects from other plans or projects;

- e. **Cumulative Effects:** the incremental effects caused by the combined effects of past, present or reasonably foreseeable activities and the development itself. This includes the combined effects of this **activity** in combination with other activities generating similar effects both temporally and spatially. Predictions should be relative to the baseline and incorporate any natural variability.
21. **Value:** the intrinsic worth or importance of a receptor. This may be characterised by different factors according to the receptor considered e.g. species rareness or legal protection, financial worth, aesthetic beauty, or historic importance.
22. **Sensitivity:** the sensitivity of a receptor is the degree to which it may be affected by **activity** - related impacts or effects. Sensitivity is a component characteristic that will determine the magnitude of effects and is independent of value or legal status.
23. **Magnitude:** the degree and importance of the change to the baseline conditions, and subsequent effects. Assessment of magnitude must consider all the relevant ecological, socio economic or other aspects of the receptors concerned, including the legal aspects.
24. **Mitigation:** measures to avoid, cancel, reduce, ameliorate or abate adverse **activity** impacts or effects. Subcategories include:
- a. **Avoidance:** avoidance is the process of eliminating possible **activity** impacts at source, either through designing them out or through implementation of alternative methods. Also known as built-in mitigation;
  - b. **Minimisation:** minimisation is conceptually similar to avoidance but aims to reduce **activity** impacts at source where eliminating them may not be possible. Again, this may be through design considerations or through alternative methods;
- 24 bis. Restoration: actions to repair features of the impacted environment that are undertaken to restore environmental components for mitigation targets, where significant impacts cannot be avoided or adequately reduced to acceptable levels.**
- 24 tier. Offset: compensation through measures to improve other sites undertaken where activity-specific mitigation is not possible or is unlikely to be effective.**
25. **Residual Effect:** the remaining effect after mitigation measures have been applied to reduce predicted **activity**-related effects.
26. **Source: the origin of the potential impacts (e.g. ground preparation and construction activities)**
27. **Pathway: the means (e.g. deposition of sediment, chemical reactions, or airborne noise) by which the impact reaches the affected ‘receptor’ (e.g. benthic organisms, terrestrial habitats or nearby residential properties). Pathways may be physical, chemical, biological, ecological or socio-economic processes or interactions, and may include intermediate stages.**

### 3.2. The EIA Process

28. This section describes the key stages in the EIA process, including the principles of EIA and the approach taken to identify baseline conditions and to evaluate the potential environmental impacts and effects associated with a proposed **activity**.
29. The EIA guidance in this document follows common legislative requirements and has drawn on a number of established guidance documents and best practice publications, [as **provided for in**

**Annex I to this document]**<sup>6</sup>. This includes clear and transparent determination of the magnitude of impacts of the proposed activities, the sensitivities and resilience of the receptors, and the impact receptor pathways. This is key to a successful and clearly auditable EIA process supporting statutory decision making.

### 3.2.1. Overview of the EIA Process

30. The EIA process is a series of assessments undertaken to ensure environmental issues are captured and considered throughout all stages of the **activity** development, from initial plans through to construction and operation **The EIA process is presented in a schematic way in Annex II.** Wherever possible, assessments should use an evidence-based approach that is systematic and auditable to evaluate and interpret the potential marine, terrestrial and socio-economic impacts of proposed activities on physical, biological and anthropogenic receptors (**ESIA**).

31. An EIA is an effective tool to determine mitigation measures for **activity**-specific impacts and effects. The views and concerns of consulted stakeholders, **environmental authorities and the public concerned**, form an important part of any recommendations. The EIA should follow all relevant best practice throughout the process, ensuring appropriate mitigation recommendations are developed to minimise the **activity's** adverse effects and to maximise positive environmental effects wherever possible.

32. The aim of the EIA process is to **identify, assess**, reduce or eliminate potential adverse impacts or effects wherever possible. It is a process that is informed by the best understanding of the baseline environment and the corresponding body of scientific knowledge and is focused on identifying the most effective mitigation solutions, and subsequently reassessing the potential residual environmental effects. **The ALARP (As Low As Reasonably Practicable) methodology may be also considered.**

33. Competent Authority, **environmental authorities, public concerned** and stakeholder consultation are a key factor in determining important data sources, the survey scope and design of the supporting technical studies, and the recommendation of mitigation measures. Consultation is crucial to understanding the limitations of the existing body of science and knowledge within relevant topics. **Those limitations and the corresponding uncertainty in predictions of impacts and effects should be clearly exposed in the Environmental Impact Assessment report (EIA report).**

34. The EIA report to be provided by the operator for an activity should include a **description of reasonable alternatives studied by the operator which are relevant to that activity, including, as appropriate, an outline of the likely evolution of the current state of the environment without implementation of the activity (baseline scenario), as a means of improving the quality of the environmental impact assessment process and of allowing environmental considerations to be integrated at an early stage in the activity's design.**

### 3.3. Scoping

35. Scoping is the process of determining **the scope and level of detail of the environmental information** to be covered in the **EIA report.**

36. Depending on the activity and local sensitivities, the scoping process **should** consult with all **relevant** stakeholders which may include a range of statutory and non-statutory consultees to ensure the widest (reasonable) scope of the **EIA report.**

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<sup>6</sup> The part in square brackets and the related Annex I to be further elaborated for review by the Parties.

37. Generally, the Competent Authority (responsible for conducting EIA) will provide feedback on key environmental matters which should be addressed in the **EIA report. The Competent authority shall consult the environmental authorities before providing this feedback.** All scoping activities should be recorded and included as appendices to the **EIA report.**

### **3.3.1. Informal Consultation**

38. **The operator**, following receipt of the **Screening Opinion**, **should approach** the relevant Competent **Authority** to discuss and agree the scope of assessments to be undertaken as part of the EIA. Key regulators and stakeholders should be contacted to agree the scope of desk-based assessments, survey design and sample analyses, modelling studies and impact assessments to be undertaken, where necessary. Further consultation should be ongoing throughout the development of the **EIA report** to ensure all relevant available data sources are identified and incorporated. Details of the consultations with the relevant **Competent Authority and stakeholders** should be summarised in the relevant chapters of the **EIA report.**

### **3.3.2. Identifying and Addressing Data Gaps**

39. During the scoping process, it is important to identify potential data gaps or uncertain datasets and acknowledge limitations of datasets, and to attempt to fill those gaps or find alternative datasets to support scoping assessment. Where alternatives cannot be found, it is important for the assessment to characterise any uncertainty within the supporting data or the underlying body of scientific knowledge, and to recognise and communicate any corresponding uncertainty in predictions of impacts and effects.

## **3.4. Impact Assessment Methodology Framework**

### **3.4.1. Describing and Valuing the Baseline**

40. A thorough understanding of the environment and the receptors that are likely to be affected by the proposed **activity** is essential for making predictions of potential impacts and effects, and for making appropriate mitigation recommendations. It is important to describe the presence or absence of relevant receptors, their current condition, natural variability, and any other characteristics relevant to impact assessments. Valuations of receptors and the methodology employed should also be included. Details of the valuation methodology are described in Section 3.4.7, Valuation of Receptors.

41. The description of the baseline should incorporate both desk-based research and field survey data. Before commencing surveys or technical studies, guidance and agreement should be sought from the Competent Authority regarding appropriate data sources, desk-based assessments, survey design and sample analyses, modelling studies and appropriate stakeholder consultation. The scope of surveys and technical studies should consider the nature of activities and the corresponding zones of influence, the sensitivities of likely receptors, and potential pathways for activities to affect receptors. Formal analysis of potential pathways is known as source-pathway-receptor analysis, and a full description is provided in Section 3.4.4, Source-Pathway-Receptor Analysis.

### **3.4.2. Data Gaps and Uncertainty**

During the EIA process, it is important to identify potential data gaps or uncertain datasets and acknowledge limitations of datasets, and to attempt to fill those gaps or find alternative datasets to support impact assessment. Where alternatives cannot be found, it is important for the assessment to characterise any uncertainty within the supporting data or the underlying body of scientific

knowledge, and to recognise and communicate any corresponding uncertainty in predictions of impacts and effects.

### 3.4.3. Identifying Impacts and Effects

42. The terms ‘Impact’ and ‘Effect’ are frequently used interchangeably in many published **EIA reports** and in certain guidance documents. The Offshore Protocol requires that “an application must include a survey concerning the effects of the proposed activities on the environment”

43. The Offshore Protocol stipulates the requirement for EIAs to describe and assess the “foreseeable direct or indirect short and long-term effects” of the activity. In particular, Annex IV requires:

- A description of the likely effects of the **activity** on the environment;
- A description of the features of the **activity** and/or measures proposed in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment, including possible alternatives.

44. The nature and characteristics of impacts and effects differ according to the topic and should be described in detail in the relevant **EIA report** chapters.

### 3.4.4. Source-Pathway-Receptor Analysis

45. Determining which receptors may be affected by **activity**-related **actions** relies on Source-Pathway-Receptor (SPR) analysis for the identification of impacts and consequential effects. **The SPR Analysis process is presented in a schematic way in Annex III.** SPR considers all potential routes and mechanisms for impacts to affect all potential receptors along predicted pathways. Pathways are processes or series of interactions that result in an impact upon a final receptor.

46. In some cases, receptors affected by **activity** related sources may themselves have effects upon other receptors, for example where there are effects on food webs or predator-prey relationships. SPR analysis should also identify all pathways and receptors when considering complex interactions where several inter-related receptors may be affected. In these cases, receptors may be affected in different ways and to different extents. For this reason, assessment of effects may need to be an iterative process, identifying several ultimate receptors, each with differing magnitudes of effects (**Annex III**).

### 3.4.5. Characterising and Assessing the Magnitude of Impacts

47. Predictions **on changes in baseline conditions** are made relative to the baseline. These should be measurable, and quantified or estimated where possible. The characterisation and assessment of the magnitude of impacts are made according to the receptors affected and require receptor-specific context. Therefore, threshold values for specific factors such as area, frequency or duration should be provided within the relevant **EIA report** chapters.

### 3.4.6. Characterising and Assessing the Magnitude of Effects

48. The magnitude of potential environmental effects for each receptor should be assessed independently of its value or designated status. The distinction between magnitude of impacts and magnitude of effects is crucial to the overall assessment of significance of effects described in Section 3.4.8 Assessment of Significance of Effects. Even where high value receptors utilise the site, the magnitude of the effect upon those receptors may be relatively low if the habitat affected is relatively

unimportant to them. Examples where the magnitude of effects upon high value receptors of concern may be low:

1. Loss/reduction of habitats of receptors that are a very small proportion of their foraging range;
2. Loss/reduction of habitats of receptors whose ranges are increasing;
3. Loss/reduction of habitats of receptors that are of very poor quality;
4. [Loss/reduction of habitats not used the purposes of breeding, sheltering or overwintering];<sup>7</sup>
5. Loss/reduction of habitats of receptors that have many alternatives sites.

49. The sensitivity of each receptor must be considered when assessing the likely magnitude of the effect. Ecological sensitivity is defined as the relative change of a system or population in relation to the level of disturbance or perturbation (Miller et al., 2010). The sensitivity of socio-economic and socio ecological systems may be defined in a similar manner (Holling, 2001).

50. The magnitude of ecological effects will be a product of the **activity**-specific impacts and the receptor specific characteristics that make those receptors sensitive or responsive to the relevant impacts. Definitions for topic-specific characteristics should be provided in individual **EIA report** chapters and should incorporate any receptor specific guidelines and best practice.

#### 3.4.7. Valuation of Receptors

51. The next stage is to determine the [nature conservation] [ecological]<sup>8</sup>, socio-economic or heritage value of the affected receptor. The methods and criteria for assigning value need to be specific to individual receptors and should be detailed in relevant **EIA report** chapters.

52. Special attention should be given to the receptors typically affected by offshore activities, including:

- a. Benthos;
- b. Coral reefs;
- c. Fish and shellfish;
- d. Marine mammals;
- e. Marine reptiles;
- f. Plankton;
- g. Seabirds;
- h. Seagrass beds;
- i. Nature Conservation Areas **and/or sensitive areas formally designated (e.g. Specially Protected Areas)**;
- j. Other users of the sea e.g. fishing, shipping, tourism **and recreation**, oil and gas activities, renewable energy, submarine cables, military activity, aquaculture, archaeology etc.

#### 3.4.8. Assessment of Significance of Effects

53. The significance of each effect is determined by scoring the value of the ecological, socio-economic or heritage feature against the magnitude of the predicted effect. This methodology is applied individually with respect to the specific **ecologic**, socio-economic or heritage characteristics of each receptor.

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<sup>7</sup> Part in square brackets to be agreed by the Parties based on further advise/ clarification by the Secretariat.

<sup>8</sup> Part in square brackets to be agreed by the Parties based on further advise/ clarification by the Secretariat.



54. The level of effect significance is used to determine the use and level of mitigation measures. Where a potential effect is assessed as ‘moderate’ or ‘major’, then this should be considered “significant” in EIA terms. So far as practicable, mitigation (including offsetting) should be identified that reduces the potential magnitude or significance of effects, or the likelihood of significant effects. Minor adverse effects would not usually require any action beyond standard good management practices.

55. Mitigation recommendations should be explored as part of the EIA process for all ‘moderate’ and ‘major’ effects. Effects are reassessed as described above until either the effect significance is reduced to acceptable levels (‘Minor Adverse’ or ‘Negligible’) or no more mitigation can be applied. Residual effect significance is estimated, from which consenting decisions can be made.

### **3.4.9. Environmental Risk Assessment**

56. It is also important to consider the likelihood that a potential effect could occur as predicted. Therefore, once the magnitude of an effect has been determined, the probability of the effect occurring should be categorised into a number of classifications ranging from ‘Certain’ to ‘Extremely Unlikely’.

57. The reason for including an ‘Extremely Unlikely’ category is that while some potential effects may be very improbable, they may also be extremely serious should they occur, resulting in major adverse effects on some receptors. These cases will require contingency plans to be put into place. Where doubt exists between two categories within the scale of probability, a precautionary approach should be adopted, and the more conservative category selected.

58. For accidental events, where it may not be possible to reduce the magnitude of potential impacts or effects, the overall environmental risk may be decreased by reducing the likelihood of an adverse event occurring through adequately designed-in mitigation measures (Gormley et al., 2011). Further risk management strategies include managing or breaking receptor pathways, and/or protecting receptors. Mitigation measures or strategies to reduce environmental risk should be addressed for relevant activities, and their subsequent influence on residual effects should be assessed for relevant receptors.

59. The assessment methodology used should be clearly described in the relevant **EIA report** chapter.

### **3.5. Mitigation Measures and Residual Effects**

60. The term mitigation is used in general to cover all efforts used to reduce potential impacts (and consequently, effects). These may include design changes, alteration of proposed methods, or other activities in addition to the core activities to reduce or ameliorate impacts. Mitigation is often used as a catch-all term that also includes avoidance, minimisation, [mitigation and offsets or compensatory]<sup>9</sup> measures.

61. Mitigation measures are predominantly applied at source, to reduce impacts, with the intention of a corresponding reduction in residual effects upon the receptors in question. However, mitigation may also be applied directly at the receptor-level, with the intention of reducing effects, without any influence on the source or the impact.

62. All the mitigation recommendations described within the **EIA report** should be based **upon the realistic worst-case scenarios and on the Best Available Techniques (BAT) approach,**

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<sup>9</sup> Part in square brackets to be agreed by the Parties based on further advise/ clarification by the Secretariat.

ensuring that all measures described are adequate to ameliorate the range of predicted effects. Mitigation recommendations may be revised during the determination of application.

### **3.6. Cumulative Effects**

63. Cumulative effects are those caused by the combined effects of past, present or reasonably foreseeable activities in the wider area and the **activity** itself. Assessment of in combination effects considers other marine and terrestrial activities generating effects over similar temporal and spatial extents. Assessment of cumulative effects should consider all potential interacting effects. The assessment of cumulative effects should draw upon established guidelines and methodologies.

64. Factors considered in scoping other **activities** in or out for assessment of cumulative effects should include connectivity, effects pathways, species distribution and foraging ranges. Consultation with the Competent Authority should be undertaken to confirm that the selection of **activities** included is complete, and that the approach to the assessment of cumulative effects is correct. Details regarding the rationale for considering cumulative effects should be provided within relevant **EIA report** chapters.

#### **3.6.a Transboundary effects**

**65. Transboundary pollution is the pollution caused beyond the limits of one Contracting Party's jurisdiction from activities exercised under its jurisdiction.**

**66. Factors considered in scoping should also consider the assessment of transboundary effects.**

### **3.7. Baseline Data Collection**

67. A methodology guidance for monitoring set out in the list of parameters document (UNEP(DEPI)/MED WG.434/4) outlines the requirement for operators to undertake an evaluation of the baseline marine environmental conditions of the area of potential impact from the planned activities, conducted via a desktop review and supplemented by field based studies if required, based on lifecycle stage of the planned activity and the availability of existing information.

68. For activities which require an EIA, recently-obtained site-specific environmental data, and a summary of the results of physical environmental baseline surveys should be presented in the **EIA report**.

69. More information on a recommended standard for seabed sampling programmes is provided in UNEP/MED WG.476/Inf.5 Rationale for the Common Standards and Guidance on the Disposal of Oil and Oily Mixtures and on the Use and Disposal of Drilling Fluids and Cuttings.

#### **3.7.1. Desktop Data Gathering**

70. A desktop evaluation of the baseline conditions of the marine environment should be conducted prior to commencing activities, documenting the condition of the marine environment for the area of potential impact from the activities. Environmental baseline data should be sufficient to characterise the area of potential impact, including regional and local biodiversity, locations of sensitive habitat and resources, and impact from other users of the resource (e.g. fishermen), so that potential impacts from the activities on all components of the marine environment can be adequately assessed within the EIA and monitored by the Operator over the duration of the activities.

71. The desktop evaluation should comprise a data search of published and grey literature, where available, and searches to identify publications and organisations that could provide relevant information.

72. Gap analysis of the desktop data identified will provide advice on which additional data is to be collected to augment the data gaps during subsequent field studies to the appropriate level of detail required for the EIA.

### 3.7.2. Environmental Baseline Surveys

73. In order to be able to assess and monitor any future change, a scientifically robust data set should be collected to determine the present environmental conditions (i.e. the baseline) of the **activity** location.

74. A well-designed environmental baseline survey will allow any changes in environmental conditions in the local area to be observed in the future, as well as determine whether these changes are the result of the proposed activities, or due to natural variation or other external factors.

75. The environmental baseline survey should collect geophysical data (bathymetry, seabed features, etc.), as well as an adequate number of seabed samples for faunal identification, sediment characterisation and chemical analysis (e.g. particle size analysis, organic contaminants, heavy metals, etc.). The use of stills photography and drop-down video is a non-destructive method, which can be used for habitat assessment.

76. Additional baseline data that may be useful to collect include local hydrodynamic, metocean and water quality conditions in the area (e.g. local wind, currents, seawater and air temperatures, salinity, and sediment transport).

77. Further guidance on Environment Baseline Survey (EBS) is provided in the list of parameters document (UNEP(DEPI)/MED WG.434/4), in which a number of Operator field environmental monitoring (including baseline environmental evaluation) criteria are proposed as follows:

- a. A field marine environment and seafloor surveys be undertaken to supplement the desktop-sourced baseline data where there are gaps found within desktop-sourced information and/or where the activity warrants such further evaluation;
- b. A pre-activity Marine Environment Baseline Survey (MEBS), gathering data regarding the baseline marine environment within the area of potential impact from the activity e.g. water and sediment, from sufficient sampling locations over the full area of potential zone of impact in order to provide a statistical representation of the baseline conditions in the area, as well as from sampling locations further afield for use as points of regional reference.
- c. Pre-activity Seafloor Survey (such as high resolution sidescan sonar survey, 3D shallow hazards assessment, Remotely Operated Vehicle (ROV) video survey, etc. **including the use of updated surveying future technologies**) should be undertaken documenting **site area and [large area]**<sup>3</sup> seafloor conditions. The survey results will provide a reference for potential spatial and temporal changes in environmental conditions on the seafloor which may result from the **activity**.

78. All surveys should be designed in consideration of the Integrated Monitoring and Assessment Programme (IMAP) Common indicators described in UNEP/MED WG.476/Inf.4 Rationale for the Guidelines for the Conduct of Environmental Impact Assessment (EIA) and more information on environmental survey strategies and the methodologies can also be found in UNEP/MED WG.476/Inf.5 Rationale for the Common Standards and Guidance on the Disposal of Oil and Oily Mixtures and on the Use and Disposal of Drilling Fluids and Cuttings.

**78 bis. It should be noted that the discharges of Non-aqueous based fluids (NADF) to the sea is prohibited during drilling operations according to the relevant Common Standards and Guidance on the Disposal of Oil and Oily Mixtures and the Use and Disposal of Drilling Fluids and Cuttings. NADF shall be shipped back to shore, where it may either be reconditioned for re-use, or can be treated for appropriate disposal onshore.**

79. The Operator Compliance Factsheets (OCF) should be used when collecting environmental data for the relevant common and candidate indicators. The completed OCFs (UNEP(DEPI)/MED WG. 434/inf.6) should be submitted to the Competent Authority of each country for authorisation and/appropriated corrective action, if necessary.

### **3.8. Assessment of Impacts and Effects**

80. All impacts identified as being potentially significant during the scoping phase should be taken forward for detailed assessment in the **EIA report**. Each impact should be described, quantified and assessed.

81. Although not an exhaustive list, a number of **potential** impacts associated with typical offshore oil and gas activities have been listed below. **The assessment of the impacts should address all the phases of the project – construction/installation, pre-commissioning and commissioning, operation and decommissioning.**

Seismic survey:

- a. Underwater noise generation on marine mammals and fish;
- b. Physical presence (e.g. survey vessel, streamers etc.) on other users of the sea and marine animals.

Exploration drilling:

- a. Physical presence on other users of the sea and the seabed and associated communities (e.g. benthos);
- b. Drilling discharges (e.g. drilling muds, cement etc.) affecting the seabed and associated communities (e.g. benthos), water column and associated communities (e.g. fish);
- c. Atmospheric emissions (e.g. power generation, flaring etc.) on the atmosphere (local, transboundary and cumulative);
- d. Underwater noise generation on marine mammals and fish;
- e. Unplanned/accidental events (e.g. hydrocarbon spills) may affect plankton, benthos, coral reefs, fish, shellfish, marine mammals, marine turtles, seabirds, seagrass beds, designated sites, coasts and inshore habitats and other users of the sea.

Production:

- a. Physical presence on other users of the sea and the seabed and associated communities (e.g. benthos);
- b. Oily discharges (e.g. produced water) on water column and associated communities (e.g. fish);
- c. Atmospheric emissions (e.g. power generation, flaring etc.) on the atmosphere (local, transboundary and cumulative);
- d. Accidental events (e.g. hydrocarbon spills) on plankton, benthos, coral reefs, fish, shellfish, marine mammals, marine turtles, seabirds, seagrass beds, designated sites, coasts and inshore habitats and other users of the sea.

**Pipelines (the main impacts of pipelines – during the laying and the operation phases should be stated, including :)**

- a. **Suspension of sediment particles during construction and sedimentation on sensitive hard substrate habitats**

- b. Underwater noise
- c. **Lighting during construction phase, especially in shallow waters**
- d. **Unplanned/accidental events (e.g. hydrocarbon leakage) on plankton, benthos, coral reefs, fish, shellfish, marine mammals, marine turtles, seabirds, seagrass beds, designated sites, coasts and inshore habitats and other users of the sea.**

82. Recognition of potential cumulative and transboundary impacts from the proposed activities should also be considered when assessing impacts and effects and included within the **EIA report**.

**82 bis. The Common Standards and Guidelines for Special Restrictions or Conditions for Specially Protected Areas (SPA) within the Framework of the Mediterranean Offshore Action Plan should taken into consideration for the assessment of activities on a formally designated area (e.g. Specially Protected Area), in accordance with the SPA/BD Protocol provisions.**

### 3.9. Mitigation and Monitoring

83. Mitigation measures **should be** predominantly applied at source, to reduce impacts, with the intention of a corresponding reduction in residual effects upon the receptors in question to acceptable levels. However, mitigation may also be applied directly at the receptor-level, with the intention of reducing effects, without any influence on the source or the impact.

84. As many oil and gas operators are multinational companies, which operate in different countries under multiple regulatory regimes, which are typically managed through their global corporate management systems to ensure all regulatory standards are met wherever they operate, many offshore oil and gas **activities** do have many inherent mitigation measures in place, as part of their “normal” operational procedures and practices.

85. All environmental mitigation and monitoring requirements should be stated within the **EIA report and the decision to grant development consent** and should be taken forward in an Environmental Management Plan (EMP). In line with the requirements set out in the IMA, regular Operator Environmental Performance assessments should be carried out by an independent/third-party to assess and evaluate the operator’s environmental performance throughout the operations against that stated within the **EIA report**.

### 3.10. The Environmental Impact Assessment Report

86. An **EIA report** submitted to the Competent Authority must describe the effects of the proposed activities on the environment, **the mitigation measures**, information on geographical location, safety measures, contingency plan, operator details, monitoring and decommissioning procedures, precautions for specially protected areas **and information about responsibilities for any environmental damage**.

87. Annex IV of the Offshore Protocol provide the minimum criteria that **every Environmental Impact Assessment report** must contain.

#### 3.10.1. Content and Structure

88. The Environmental Impact **Assessment report** must contain at least:

- a. A description of the methods, installations and other means to be used, **and** possible alternatives to such methods and means **and justification of the selected option**;
- b. An indication of the nature, aims, scope and duration of the proposed activities;
- c. A description of the initial state/baseline of the environment of the area;

- d. A description of the geographical boundaries of the area within which the activities are to be carried out, including safety zones where applicable;
- e. A reference to the methodology used for the environmental impact assessment;
- f. A description of the foreseeable direct or indirect short and long-term effects of the proposed activities on the environment, including fauna, flora and the ecological balance;
- g. A statement setting out the measures proposed for reducing **to a minimum** the risk of damage to the environment as a result of carrying out the proposed activities, including possible alternatives to such measures;
- h. An indication of the measures to be taken for the protection of the environment from pollution and other adverse effects during and after the proposed activities;
- i. An indication of whether the environment of any other State is likely to be affected by the proposed activities;
- j. Details of the environmental monitoring programme **and the management plan**.

### 3.11. Regulator Review and Public Consultation

89. After submission of the **EIA report** to the Competent Authority it will be subject to a formal public consultation period. The general public should be notified that an **EIA report** has been submitted to allow for any persons or third parties likely to be interested in, or affected by, the relevant **activity** to comment. Notifying the public is typically undertaken through the publication of a notice in a newspaper or other publication inviting comments on the **EIA report**. It is recommended that a deadline for the submission of comments be applied to the consultation period e.g. 30 days after the date of public notice. Any comments raised during public consultation must be sent to the Competent Authority.

90. If the Competent Authority considers that an activity could have a significant effect on the environment of an adjacent State, or where that State considers that its environment is likely to be significantly affected by the activity, the adjacent State should be invited to participate in the consultation process.

91. Once the consultation has concluded, the Competent Authority will undertake its review. The review is the process of establishing whether the environmental information submitted by the **operator**, as part of an EIA procedure, is adequate to grant consent. The review can be undertaken by the Competent Authority or by an independent organisation on behalf of the Competent Authority. **The result of the public consultation with all questions and provided answers must be publicly available.**

92. Where the **EIA report** is considered to be inadequate, the operator will be asked to provide additional information and the consent decision process will not start until this information has been provided. There will usually be a procedure for appeal against requests for further information.

93. Following receipt of the operator's response, the Competent Authority will take the additional information into consideration when reviewing the submission. If the additional information is considered to be integral to the decision, it will also require the additional information to be subject to a further round of public consultation.

94. Where there are significant additional information requirements, the Competent Authority may request a formal addendum to the original **EIA report**, or even suggest that the operator should prepare a new **EIA report**, and the entire review process would have to be repeated.

### 3.12. Decision Making (Consenting)

95. Once all the issues raised during the consultation process and the Competent Authority's review have been resolved, authorisation will only be granted if the authority is satisfied that the

activity is unlikely to have a significant impact on the receiving environment, that the installation has been **planned** in accordance with accepted international standards and practice and that the operator has the technical competence [and the financial capacity]<sup>10</sup> to carry out the activities.

96. [Authorisation shall be refused if there are indications that the proposed activities are likely to cause significant adverse effects on the environment that could not be avoided by compliance with the conditions prescribed by the Competent Authority.]<sup>11</sup>

97. When considering approval of the siting of an installation, the **operator** should ensure that no detrimental effects will be caused to existing facilities, in particular, to pipelines and cables-

98. The Competent Authority will examine the **EIA report** against the requirements listed in the Offshore Protocol. Authorisation will be granted when the Competent Authority is satisfied with the information provided and that there are no environmental objections to the issue of consent for the activities. Authorisation will specify the activities and the period of validity, geographical limits, technical requirements, installations and necessary safety zones. The authorisation may impose conditions to reduce risks and damage due to pollution resulting from the activities. Any changes to the proposals must be reported to the Competent Authority and shall be subject to screening or EIA.

#### **4. Guidance for the conduct of environmental assessment as per section 2.3**

##### **4.1. Permitting**

**99. As indicated in section 2.3 and following the screening decision, the information to be provided by the operator should address the following aspects:**

- a. A brief description **of the activity**, methods, installations and other means to be used **during their entire lifespan**;
- b. A brief description of the nature, aims, scope and duration of the proposed activities;
- c. A brief description of the initial state/baseline of the environment of the area;
- d. A brief description of the geographical boundaries of the area within which the activities are to be carried out, including safety zones where applicable;
- e. A brief description of the potential direct or indirect, short and long-term effects of the proposed activities on the environment, including fauna, flora and the ecological balance;
- f. A description of the mitigation measures in place to avoid/minimise the risk of damage to the environment through pollution during and after the proposed activities;
- g. A notification, **as per article 17 of the Protocol**, on whether it is likely that the environment of another State is to be affected by the proposed activities.

**99 bis. In describing the above points, the operator may consider the following provisions:**

##### **4.1.1. Description of Activity**

100. A description of the activity including the activity methodologies, location of activity and work programme should be provided.

##### **4.1.2. Activity Schedule**

101. The environmental **assessment** should confirm the proposed start date and duration of the activities. The schedule should also take into account potential delays, as there may be seasonal differences in environmental sensitivities.

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<sup>10</sup> Part in square brackets to be further reviewed by the Parties.

<sup>11</sup> Part in square brackets to be further reviewed by the Parties.

#### 4.1.3. Description of Environmental Baseline

102. A description of all aspects of the environment likely to be affected by the activity should be included. Particular attention should be made to environmentally sensitive geographical areas, which are likely to be affected by the activity, including any protected species or habitats. Maps should be included, where relevant, to supplement the environmental baseline description. Consideration should also be given to other activities and users which use the location of the proposed activities.

#### 4.1.4. Environmental Assessment

103. The Environmental Assessment should include any likely significant effects of the activity on the environment. **The elements to be considered should include:**

- a. **Physical presence;**
- b. **Production of wastes and relevant emissions, discharges and expected residues;**
- c. **Production of underwater noise;**
- d. **The use of natural resources;**
- e. **The characteristics of the activity (e.g. size and design of the whole activity, cumulation with other existing and/or approved activities, use of natural resources, production of waste, pollution and nuisances, risk of major accidents and/or disasters which are relevant to the activity concerned, risks to human health etc.);**
- f. **The cumulation with other activities;**
- g. **The risk of accidental events;**
- h. **Location of the activities, close to or within an environmentally sensitive geographic area (including relative abundance, availability, quality and regenerative capacity of natural resources in the area and its underground; absorption capacity of the natural environment);**
- i. **Type and characteristics of the potential impacts (e.g. magnitude and spatial extent, nature, transboundary nature, intensity and complexity, probability, expected onset, duration, frequency and reversibility, cumulation of the impact with the impact of other existing and/or approved activities, possibility of effectively reducing the impact).**

#### 4.1.5. Environmental Management and Mitigation Measures

104. Where relevant, any features or measures envisaged to avoid, prevent or reduce what might otherwise cause significant adverse effects on the environment should be included **as well as monitoring and management plan including oil spill contingency plan.**

#### 4.2. Permitting for the Use and Discharge of Chemical Additives

105. The List of Parameters (UNEP(DEPI)/MED WG.434/4) outlines the requirement for the submission of documentation to the relevant regulatory authority (Competent Authority) for the provision of environmental permits for the use of chemicals, drilling mud and allowable discharges, as part of the Operator Monitoring Plan and to address the requirements per relevant sections of the Offshore Protocol.

106. This section provides further clarification on the minimum criteria which must be included within an application for a chemical use and discharge permit according to relevant legislation and international best practice.

107. The use and discharge of all planned chemical additives, including any contingencies, must be approved by the Competent Authority. Any chemical permit application should include:



- a. A brief description of the offshore installation on or from which the chemicals are to be used and/or discharged and its location;
- b. A brief description of any technology and/or techniques which would be used to prevent or minimise the use and/or discharges;
- c. A brief description of the measures intended to monitor the use and/or discharge of any chemicals;
- d. A list of the use and discharge volumes of chemical additives;
- e. A risk assessment, incorporating details of any chemicals that could pose a risk to the environment and an impact assessment.

#### **4.2.1. Permitted Substances List**

108. Currently Annex I of the Offshore Protocol lists substances where disposal is prohibited and Annex II, which lists substances that require a special permit to discharge. The Barcelona Convention Offshore Oil and Gas Group (OFOG) Sub-Group on Environmental Impact of Offshore Monitoring Programmes has recommended changes to Annex I and II of the Offshore Protocol after reviewing best practices. A proposed amendment to the List of Pollutants (document UNEP(DEPI)/MED WG.434/3) is provided as Appendix 1 to the Rationale for the Guidelines for the Conduct of Environmental Impact Assessment (EIA) submitted as information document (UNEP/MED WG.476/Inf.4).

109. The lists of substances addressed under the Convention for the Protection of the Marine Environment of the North-East Atlantic (the OSPAR Convention) and the Offshore Chemical Notification Scheme (OCNS), which manages chemical use and discharge **may be used** as an alternative to Annex II. These lists include, the List of Substances of Possible Concern (LSPC), the List of Substances Used and Discharged Offshore which are Considered to Pose Little or No Risk to the Environment (PLONOR), and the OCNS Chemical Hazard and Risk Management (CHARM).

110. The OCNS is based upon the OSPAR Harmonised Mandatory Control Scheme (HMCS) developed through the OSPAR Decision 2000/2 (as amended) on a harmonised mandatory control system for the use and discharge of offshore chemicals.

111. The Harmonised Offshore Chemical Notification Format (HOCNF) applies to chemicals used in connection with offshore exploration and production activities in the OSPAR maritime area. Chemical manufacturers must complete a HOCNF registration for each chemical product. Once registered and approved, each chemical product will receive a certificate of use/template and will be placed on the list of registered products. This list contains all chemical products certified for use offshore.

#### **4.2.2. Quantification of Chemical Use and Discharge**

112. Information on the quantities of chemicals to be used and discharged should be recorded, based on either standardised reference installations or, where appropriate; on site specific use and discharge. The quantification of chemicals will allow chemical use and discharge in the Mediterranean to be monitored, with the potential for reporting on the levels of chemical use and discharge in the region.

113. The measurement or calculation, documentation, and reporting of chemical use and discharge (volumes, rates and characteristics) are also required as part of IMAP's Operator Environmental Monitoring Programme.

#### **4.2.3. Chemical Risk Assessment/Modelling**

114. The following section uses the procedure described by the OCNS and HMCS, as an example of best practice, which can be readily adopted for use in the Mediterranean. An assessment of the potential risks to the environment as a result of the use and/or discharge of primary and/or contingency chemical, should be undertaken. Chemicals which have been assigned as PLONOR will need to be included on the permit application but do not need any further modelling or risk assessment. Chemicals which have to potential to cause risk will require a risk assessment using modelling software such as CHARM.

115. The risk assessment modelling is based on the ratio between the Predicted Environmental Concentration (PEC) derived from data relating to individual substances or preparation characteristics and the conditions of use, and the Predicted No-effect Concentration (PNEC) derived from toxicity tests conducted to agreed protocols. The PEC:PNEC ratio facilitates informed assessments of the risk for each usage and/or discharge scenario, which can then be considered in the light of local sensitivities.

116. A site-specific risk assessment should be undertaken using ecotoxicological information to calculate a Risk Quotient (RQ) using installation specific data, using the CHARM model. The CHARM model is not applicable for all substances, depending on their biodegradation value, bioconcentration and molecular weight. Specific chemical and toxicity data required to calculate RQ will be available from the chemical suppliers on the product templates. The calculations of the RQ Chemicals with functions for which the CHARM model has no algorithms are ranked by applying the OCNS hazard groups instead.

117. The risk assessment should consider the toxicity of the chemicals present in a discharge, calculate the dispersion/dilution rate and, where there is the potential for effects upon local sensitivities such as spawning grounds, should estimate the area of potential biological effect. The risk assessment should include coherent rationale for the use of the selected chemical products balanced with the potential for adverse effects on the local environment. The assessment should also consider operational and commercial requirements for product use, and/or refer to monitoring data or specific knowledge that enables a more accurate prediction of the chemical fate and effects.

#### **4.2.4. Justification for Use and Discharge of OCNS Chemicals with Substitution Warnings**

118. An important part of the HMCS is the identification and phasing out of harmful chemicals. OSPAR has developed lists of harmful chemicals (OSPAR List of chemicals for Priority Action) which should be phased out and have provided these chemicals with a substitution warning. Operators should try and avoid using products with a substitution warning if an appropriate alternative is available. A chemical with a substitution warning will be identified on the manufacturer's chemical template.

119. If a chemical is, or contains, a substance that has been assessed as an OSPAR Candidate for Substitution, the use of the chemical must be justified including, where appropriate, a description of relevant risk mitigation measures. Consideration of alternative products to demonstrate whether they would represent a lower environmental risk should also form part of the overall risk management process.

#### **4.3. Regulator Review and Consultation**

120. Environmental **assessment** and Chemical permit applications will be reviewed by the Competent Authority and may also be subject to review by additional statutory consultees. Once

satisfied all statutory requirements are met, the Competent Authority will issue a permit to undertake the proposed work. The permit may contain specific operational, temporal and reporting conditions/restrictions related to the proposed **activities**. Environmental **assessment** and Chemical permit applications are not subjected to public consultation, so typically the permitting process will be much quicker than for **activities** that require an EIA.

#### **4.4. Decision Making (Consenting)**

121. [When considering approval for environmental **assessment** and chemical permit applications, consultee comments will be taken into consideration along with the outcome of the Competent Authority's review. If the information provided in the environmental **assessment** is acceptable, there are no objections from consultees and the Competent Authority is satisfied that the activity will not result in any significant adverse effects, the approval will be granted. If the Competent Authority is not satisfied, and considers the activity has the potential to cause significant adverse environmental effects, the application will be rejected. The Competent Authority will provide advice on how to proceed in this instance.]<sup>12</sup>

#### **4.5. Bibliography**

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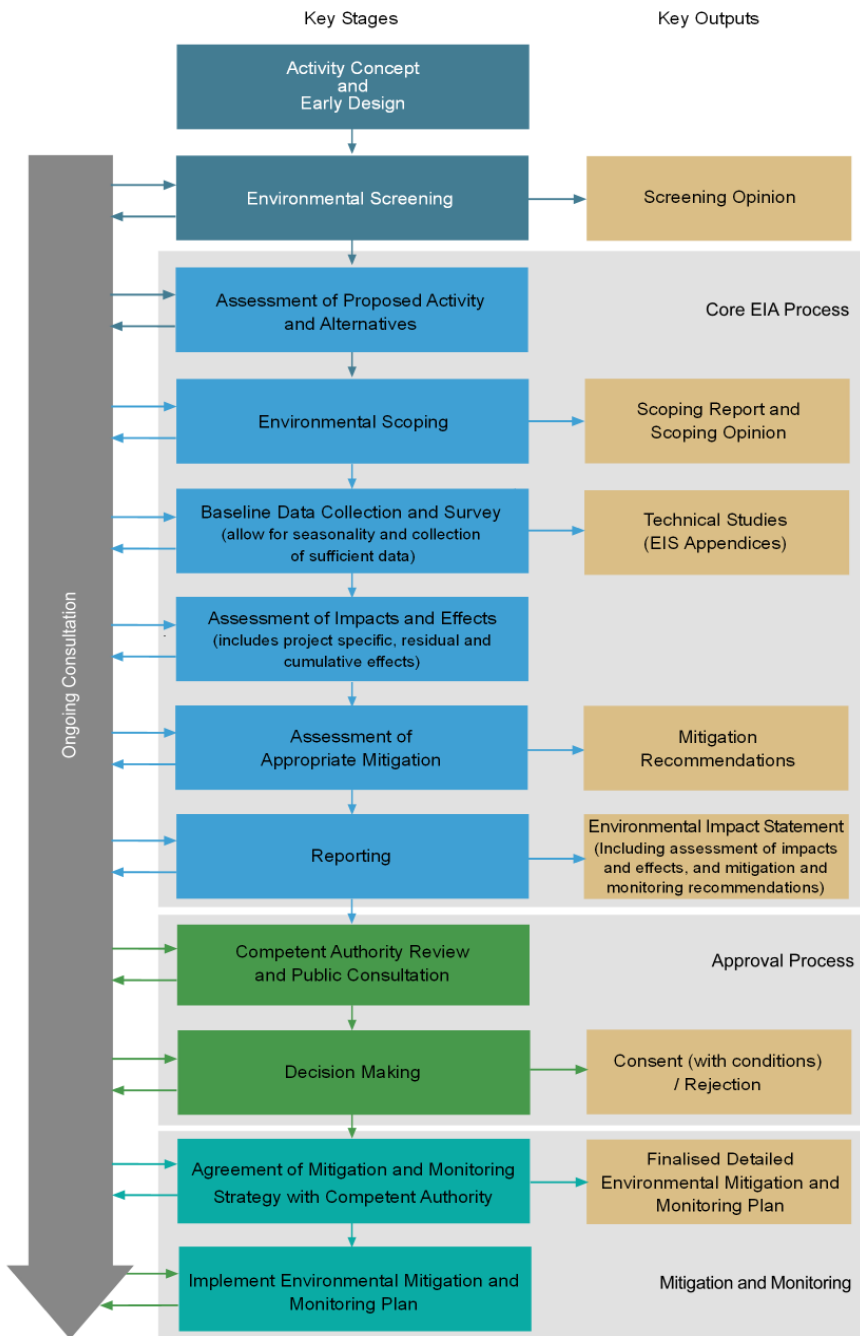
<sup>12</sup> Part in square brackets to be further elaborated by the Secretariat based on inputs to be received by Parties.

**[Annex I. Reference documents]** <sup>13</sup>

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<sup>13</sup> Annex I to be completed by the Secretariat based on inputs to be received by Parties and Partners

[Annex II Key stages and outputs of the EIA process]<sup>14</sup>



<sup>14</sup> Annex II to be updated by the Secretariat in line with changes in Section 3 agreed by the meeting.

### Annex III. Source-Pathway-Receptor analysis, assessment of significance of effects, and implementation of mitigation and monitoring measures

