وزارة البيئة

قرار مشترك
صادر عن وزيري الطاقة والمياه والبيئة رقم ٢٦/ف.و
تاريخ ٢٢/٦/٢٠٢٣
تحديد قواعد إرشادية لدراسة تقييم الأثر البيئي لعمليات استطلاع واستكشاف النفط والغاز في المياه البحرية اللبنانية

إن وزيري الطاقة والمياه والبيئة،

بناء على القانون رقم ٢٠٠٢/٤٤٤ قانون البيئة لا سيما المادة ٢١،

بناء على القانون رقم ٢٠١٠/١٣٢ (قانون الموارد البترولية في المياه البحرية) لا سيما المواد ٩ و١٠ و٢٣ و٦١ منه،

بناء على المرسوم رقم ٢٠١٢/٨٦٣٣ (تقييم الأثر البيئي)،

بناء على المرسوم رقم ٢٠١٢/٧٩٦٨ (هيئة إدارة قطاع البترول) لا سيما المادة ٩ منه،

بناء على المرسوم رقم ٢٠١٣/١٠٢٨٩ (الأنظمة والقواعد المتعلقة بالأنشطة البترولية تطبيقا للقانون ٢٠١٠/١٣٢) لا سيما المواد ٩١، ٩٢، ٩٤ و١٦٣ منه،

بناء على المرسوم رقم ٢٠١٧/٤٢ (تقسيم المياه البحرية الخاضعة للولاية القضائية للدولة اللبنانية الى مناطق على شكل رقع)،

بناء على توصية هيئة إدارة قطاع البترول رقم ٢٠٢٢/٨ الصادرة بموجب كتابها ذي الرقم الصادر ٧٤٠/هـ تاريخ ٢٠٢٢/١١/١٩.

وبعد استشارة مجلس شورى الدولة رأي رقم ٢٠٢٢/١٠٤ـ٢٠٢٣ تاريخ ٢٠٢٣/٥/٤،

يُقرران ما يلي:

المادة الأولى: تُعتمد القواعد الارشادية لدراسة تقييم الأثر البيئي لعمليات استطلاع واستكشاف النفط والغاز في المياه البحرية اللبنانية المرفقة بالقرار الراهن، بهدف تنظيم مراحل التخطيط والإعداد ومراجعة جميع أنواع الدراسات المتعلقة بتقييم الأثر البيئي الآيلة الى صدور موقف وزارة البيئة وفقا لما هو محدد في المادة رقم ١٠ من المرسوم رقم ٢٠١٢/٨٦٣٣.

المادة الثانية:

١ ـ على أصحاب الحقوق التي تُمنح في الرقع المحددة بموجب المرسوم ٢٠١٧/٤٢ (تقسيم المياه البحرية الخاضعة للولاية القضائية للدولة اللبنانية الى مناطق على شكل رقع)، أن يلتزموا بالقواعد الإرشادية الصادرة بموجب القرار الراهن من أجل إعداد جميع الدراسات المتعلقة بتقييم الأثر البيئي الخاصة بأنشطة الاستطلاع والحفر الاستكشافي في هذه الرقع.

٢ ـ تُطبق على صاحب المشروع، في حال مخالفة أحكام هذا القرار، أحكام الباب السادس، ولا سيما المادة الثامنة والخمسين من القانون رقم ٤٤٤ تاريخ ٢٠٠٢/٨/٨ (حماية البيئة).

٣ ـ إن تطبيق أحكام الباب السادس من القانون رقم ٤٤٤ تاريخ ٢٠٠٢/٨/٨ (حماية البيئة) لا يحول دون إلزام صاحب المشروع، في حال لم يباشر بتنفيذ مشروعه، بإعداد دراسة تقييم أثر بيئي لهذا المشروع، أو، في حال باشر بتنفيذ مشروعه، بإعداد على الأقل، «خطة الإدارة البيئية» لهذا المشروع، وذلك وفقا لأحكام المرسوم رقم ٨٦٣٣ تاريخ ٢٠١٢/٨/٧ (أصول تقييم الأثر البيئي).»

المادة الثالثة:

١ ـ عملا بأحكام المادة التاسعة من المرسوم ٢٠١٢/٧٩٦٨ (هيئة إدارة قطاع البترول) تقوم وحدة الجودة والصحة والسلامة والبيئة QHSE لدى هيئة إدارة قطاع البترول بمراجعة الدراسات المتعلقة بتقييم الاثر البيئي ووفقا لهذه القواعد الارشادية بالتنسيق مع الإدارات المعنية.

٢ ـ يتم التنسيق ما بين وزارة البيئة (والدوائر المعنية لدى وزارة) ووزارة الطاقة والمياه وهيئة إدارة قطاع البترول وفقا للآلية المنصوص عليها ضمن القواعد الإرشادية لا سيما الفقرة ٢,١,٢ منها على أن يُراعى في ذلك التالي:

أ ـ تقدم الطلبات والدراسات المتعلقة بتقييم الأثر البيئي المعدة من قبل صاحب الحق المشغل (صاحب المشروع) الى هيئة إدارة قطاع البترول وتقوم وحدة الجودة والصحة والسلامة والبيئة QHSE لدى الهيئة بدراستها بالاستناد الى القواعد الإرشادية المرفقة بالقرار الراهن ووفقا لأحكام المادة ٩ من المرسوم رقم ٢٠١٢/٧٩٧٨، ويحق للهيئة أن تطلب من صاحب الحق المشغل إيضاحات إضافية أو إجراء التعديلات اللازمة على الطلب أو الدراسة.

ب ـ يحيل وزير الطاقة والمياه، بناء على توصية هيئة إدارة قطاع البترول، الطلبات والدراسات المتعلقة بتقييم الأثر البيئي الى وزارة البيئة لاتخاذ الموقف المناسب وفقا للقواعد الإرشادية المرفقة بالقرار الراهن وفقا لأحكام المرسوم رقم ٨٦٣٣ تاريخ ٢٠١٢/٨/٧ (أصول تقييم الأثر البيئي) ولا سيما أحكام المادة ١٠ منه.

ج ـ تبلّغ وزارة البيئة موقفها حيال الطلبات والدراسات المتعلقة بتقييم الأثر البيئي الى وزير الطاقة والمياه لاتخاذ القرار المناسب، بناء على توصية هيئة إدارة قطاع البترول، وفقا لأحكام المادة ٩٢ من المرسوم ٢٠١٣/١٠٢٨٩.

المادة الرابعة: يُنشر هذا القرار في الجريدة الرسمية وعلى الموقع الإلكتروني لهيئة إدارة قطاع البترول وعلى الموقع الالكتروني لوزارة البيئة ويبلغ حيث تدعو الحاجة.

٢٢ حزيران ٢٠٢٣

وزير الطاقة والمياه
د. وليد فياض

وزير البيئة
د. ناصر ياسين

Sector-specific EIA Guidelines for Oil and Gas Reconnaissance and Exploration Drilling Activities in Lebanon

VERSION (Rev 1)
7/03/2022

These EIA Guidelines have been developed by Eureka Energy Partners As in close cooperation with the Lebanese Ministry of Environment and the Lebanese Petroleum Administration.

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ABBREVIATIONS

ACCOBAMS	Agreement on the Conservation of Cetaceans in the Black Sea, Mediterranean Sea, and contiguous Atlantic area
AOI	Area of Influence
CBD	Convention on Biological Diversity
CDR	Council for Development and Reconstruction
CNRS	National Council for Scientific Research
COM	Council Of Ministers
DP	Dynamically Positioned (drill ship or rig)
EBS	Environmental Baseline Survey
EHS	Environment, Health and Safety
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EMoP	Environmental Monitoring Plan
EMP	Environmental Management Plan
ERP	Emergency Response Plan
ESIA	Environmental Social Impact Assessment
ESPOO	Convention on Environmental Impact Assessment in a Transboundary Context
GIIP	Good International Industry Practice (as defined by the World Bank Group)
GIS	Geographic Information System
HSE	Health, Safety and Environment
IEE	Initial Environmental Examination
IOGP	International Association of Oil and Gas Producers
IFC	International Finance Corporation
IPIECA	International Petroleum Industry Environmental Conservation Association
IPLOCA	International Pipeline and Offshore Contractors Association
ISO	International Organisation for Standardisation
IUCN	International Union for the Conservation of Nature
JNCC	Joint Nature Conservation Committee
KBA	Key Biodiversity Area
LAEC	Lebanese Atomic Energy Commission
LIBNOR	Lebanese Standards Institution
LPA	Lebanese Petroleum Administration
MARPOL	International Convention for the Prevention of Pollution from Ships
MMO	Marine Mammal Observer
MOC	Ministry of Culture
MOE	Ministry of Environment
MOET	Ministry of Economy and Trade
MOEW	Ministry of Energy and Water
MOPWT	Ministry of Public Works and Transport
MOSA	Ministry of Social Affairs
NEA	Norwegian Environment Agency
NGO	Non-Governmental Organisation
NTS	Non-Technical Summary
OPRL	Offshore Petroleum Resources Law 132/2010

OSPAR	Convention on the Protection of the Marine Environment of the North-East Atlantic
PAP	Project-affected Party
PAR	Petroleum Activities Regulations Decree 10289/2013
QA	Quality Assurance
RAMSAR	International Convention on Wetlands
ROV	Remotely Operated Vehicle
SEA	Strategic Environmental Assessment
SEP	Stakeholder Engagement Plan
SIA	Social Impact Assessment
SMP	Social Management Plan
SOLAS	International Convention for the Safety of Life at Sea
SOPs	Standard Operating Procedures
TOR	Terms of Reference
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
VEC	Valued Ecosystem Component

DEFINITIONS

Baseline data	Baseline data comprises all information relevant to describe the state of the environment prior to a project being undertaken. This includes environmental, cultural and socio-economic data.
Best International Petroleum Industry Standards	Best International Petroleum Industry Standards mean all those uses and practices that are, at the time in question, generally accepted in the international petroleum industry as being good, safe, economical, environmentally sound and efficient in exploring for, developing, producing, processing and transporting petroleum. They should reflect standards of service and technology that are appropriate to the operations in question (including state-of-the-art standards where appropriate and economically justified), and should be applied using standards in all matters that are no less rigorous than those in use by the Right Holders or their Affiliates in other global operations. In the context of this guideline the term is treated as equivalent to GIIP.
Consultant	Consultant is an international recognized consultant in agreement (joint venture, partnership, MOU or other) with a local consultant. The local consultant should be on the latest CDR list of approved consultants, endorsed by MOE.
Competent authority	A competent authority is any person or organization that has the legally delegated or invested authority, capacity, or power to perform a designated function.
Environmental Assessment	Environmental Assessment is a procedure that ensures that the environmental implications of decisions are taken into account before the decisions are made. In accordance with the EIA Decree and depending on the outcome of the screening application an environmental assessment can be undertaken in form of an IEE or EIA.
Exploration Drilling	Exploration Drilling includes all drilling activities during the exploration phase including appraisal activities and associated activities such as land support, marine/air transport as well as well related activities.
GIIP	GIIP is defined as the exercise of professional skill, diligence, prudence, and foresight that would reasonably be expected from skilled and experienced professionals engaged in the same type of undertaking under the same or similar circumstances globally or regionally. The outcome of such exercise should be that the project employs the most appropriate technologies in the project-specific circumstances (World Bank Group EHS Guidelines). The term is treated as equivalent to Best International Petroleum Industry Standards.
Operator	The OPRL defines the operator as a company whose appointment is approved by the Council of Ministers, to execute on behalf of a Right Holder the day to day management of Petroleum Activities.
Petroleum Activities	The planning, preparation, installation and execution of activities associated with a subsea Reservoir, such as reconnaissance, exploration, production and exploitation, laying pipelines, development of facilities, production from reservoirs, transportation, as well as cessation of any such activities and decommissioning of a facility. Transportation of petroleum in bulk by vessel and vehicle shall not be included. (Offshore Petroleum Resources Law No. 132/2010)
Primary data	Primary data means data collected via targeted survey techniques specifically for the proposed project.
Project	Project in these Guidelines means an activity of a Proponent for which certain information (e.g. IEE or EIA) is required for submission to a government agency.

Proponent	The Proponent within these Guidelines is the Right Holder-Operator as defined in OPRL 132/2010 submitting information relevant for obtaining an approval to proceed with project activities.
Project Screening	Project screening is the process of classifying a project as requiring an IEE, EIA, or no impact assessment. This process is referred to in the unofficial English translation of the EIA Decree (Decree 8633/2012) as 'Project Classification'.
Public participation	Public participation is a public process where everybody interested can participate.
Reconnaissance	Activities aiming at defining the existence of one or more petroleum reservoirs, by means of geological, petrophysical, geophysical, geochemical or geotechnical surveys, as well as other activities as stipulated by a Petroleum Right (Offshore Petroleum Resources Law No. 132/2010).
Reviewer	The reviewer is a party responsible for the review of an IEE or EIA submission. The responsible parties are LPA and MOE with other agencies being involved as required.
Right holder	The OPRL defines a right holder to be any joint stock company which is participating in Petroleum Activities pursuant to the OPRL through an Exploration and Production Agreement or a Petroleum License that permits it to work in the petroleum sector.
Secondary data	Secondary data consists of information available in the public domain or held with relevant institutions. Secondary data is normally not collected and owned by the project and more likely not gathered due to the project. It may therefore have a different spatial or thematic focus but may still be relevant.
Stakeholder	Stakeholders are persons or groups who are directly or indirectly affected by a project, as well as those who may have interests in a project and/or the ability to influence its outcome, either positively or negatively. The term stakeholder is broad and may include locally affected communities or individuals and their formal and informal representatives, national or local government authorities, politicians, religious leaders, civil society organizations and groups with special interests, the academic community, or other businesses.
VEC	Valued ecosystem components (including valued socio-economic components) describe "attributes or components of the natural and human environments for which there is public or professional concern (Beanlands and Duinker 1983).
Well Related Activities	Activities associated with petroleum activities that include a) well testing; b) well completion; c) suspension, plugging and abandonment of a well; d) re-entry into an existing exploration or production well; and e) well intervention.

1 INTRODUCTION

This document constitutes the offshore Oil and Gas Environmental Impact Assessment (EIA) Guidelines for Reconnaissance and Exploration Drilling Activities (hereafter referred to as "the Guidelines"). The Guidelines describe minimum requirements related to the approval process for environmental assessments (Initial Environmental Examinations (IEE) and EIA) and the elaboration of submissions by the oil and gas sector from a technical and administrative perspective and thus, cannot be seen as exhaustive. There might be specific projects and processes as well as site-specific issues (e.g. ecologically sensitive areas and social receptors), which require the inclusion of additional aspects.

While the Guidelines are aimed at promoting the use of good practice, each submission for environmental approval must be assessed on its own terms. In addition, no guidance document can cover every eventuality. The Proponent remains responsible for the quality and comprehensiveness of their environmental assessment submissions for approval and for complying with all legal requirements. No liability for the rejection of environmental assessments can be placed on the Guidelines.

1.1 Objectives and Scope

The Guidelines are developed to assist Proponents on how to undertake the submissions for environmental approval for reconnaissance and exploration drilling activities in the offshore oil and gas sector in Lebanon, including any related support activities. Their scope spans over the Environmental Assessment review process, starting from the Proponent's preparations for the screening application to the final opinion on the Environmental Assessment by the Ministry of Environment (MOE).

The objectives of the Guidelines are:

(1) To clarify the environmental assessments (IEE/EIA) approval requirements for the above-mentioned activities under the Lebanese environmental and oil and gas regulations.

(2) To provide guidance on the structure, content and scope of the required submissions and on compliance with legal requirements, international good practice and professional standards.

(3) To obtain consistent and high-quality reports submitted by the industry that will support a well-informed evaluation and decision-making process.

1.2 Regulatory Context

Environmental Protection Law 444/ 2002 sets the basic principles and general provisions to regulate environmental protection and management, preservation and maintenance of environmental resources, and the assessment of environmental impacts of projects in Lebanon. Title 4 of Law 444/ 2002 sets the requirement for conducting environmental assessments which should be reviewed by the MOE, the national competent authority responsible for all matters related to the environment in Lebanon. Decree 8633/ 2012 describes the requirements and administrative processes that should be considered in

the environmental assessment of public and private projects. MOE Decisions 260/1 of 2015 and 261/1 of 2015 describe the mechanism to be followed by the MOE for the review of Scoping and IEE/EIA Reports.

Petroleum Activities in the offshore oil and gas sector in Lebanon are regulated by the Offshore Petroleum Resources Law (OPRL) 132/2010, which sets the principles and procedures for the management of offshore petroleum operations, and the Petroleum Activities Regulations (PAR) Decree 10289/2013 which details licensing conditions and requirements for exploration, production, development, transportation and decommissioning, including specific EIA requirements applicable to the sector. The Lebanese Petroleum Administration (LPA) establishment decree 7968/2012 mandates the LPA to review environmental studies in coordination with relevant authorities (i.e. MOE). The Exploration and Production Agreement (EPA) Decrees regulate the legal and contractual relationship between the Lebanese State and the Proponent and can include specific environmental requirements for each Block governed by these EPAs.

Accordingly, these Guidelines are based on, and refer to, Decree 8633/2012, referred to as the EIA Decree in these Guidelines, and are also coordinated with EIA relevant requirements in the OPRL (Law 132/2010), the PAR (Decree 10289/2013), and the model EPA Decrees, which specify the applications required during the life cycle of the Petroleum Activities including associated requirements on general Environmental Assessments.

1.3 Roles and Responsibilities

Two main governmental entities are involved in the environmental assessment review process in the offshore oil and gas sector in Lebanon, namely the Ministry of Environment (MOE) and the Lebanese Petroleum Administration (LPA), the latter under the tutelage of the Minister of Energy and Water.

The MOE is the authority responsible for the protection of the environment in Lebanon. The main areas regulated by the MOE are:

- All environmental matters, including emissions, discharges, hazardous materials, waste, state of the ambient environment conditions[1]
- Development of environmental strategies, plans and programs to be followed.
- Development of legislation, specifications and standards necessary for protecting the environment, sustainability of its natural resources and addressing emergency and chronic hazards affecting it
- Environmental permitting
- Monitoring the condition of the environment
- Supervision and inspections of facilities, activities and operations relating to environmental impact
- Environmental accident investigations
- Enforcement in cases of emergency leading to environmental impacts
- Enforcement in cases of non-conformity or violation of environmental regulations

[1] Note that other governmental entities have mandates for discharges, hazardous, and radioactive waste such as the Ministry of Public Works and Transport (MOPWT), the Ministry of Public Health (MOPH) and the Lebanese Atomic Energy Commission (LAEC)

More specifically, the MOE is responsible for reviewing and approving IEEs and EIAs (Decree 8633/2012), ensuring that they are in line with the environmental conditions and natural resources sustainability (Article 21 of Law 444/2002). In case of the upstream offshore oil and gas activities, MOE coordinates the processes with the LPA.

The LPA is an independent public institution mandated to manage the upstream offshore petroleum sector in Lebanon, operating under the tutelage of the Minister of Energy and Water.

In addition to the economic aspects of the offshore petroleum sector, the LPA has responsibilities in areas of health, safety, environment and emergency preparedness in coordination with relevant entities. The OPRL and PAR define the aspects where coordination with other entities is required as well as the aspects where LPA's recommendations and opinions are required by MOEW for decision making. Some of the decisions taken by the Minister of Energy and Water require approval by the Council of Ministers.

The principal objective of the LPA is to contribute to creating the greatest possible value for the economy and the society out of the petroleum sector while protecting the environment, health, and safety. More specifically, and in addition to preparing technical studies to support and inform the decision-making processes, the LPA actively undertakes planning, regulatory, and supervisory roles across the petroleum industry value chain, namely the LPA plays critical roles during the licensing phase, the exploration phase, the development and production phase and the decommissioning phase.

The Quality, Health, Safety and Environment (QHSE) Department of LPA is responsible (Art. 9 of Decree 7968/2012) for all matters relating to the quality of the systems operators and the extent of their adherence to the conditions of health and safety and the environment and in particular:

- Review studies on environmental impact assessments in coordination with the relevant authorities
- Evaluate applications for licenses from the point of view of the quality of performance in operations: health, safety and the environmental protection
- Study and follow-up of requests and inquiries from operators or rights-holders with respect to quality of operations; health; safety and the environmental protection
- Study plans related to the quality of performance, health, safety, environmental protection and contingency plans
- Monitor the readiness of operators to meet accidents and emergency
- Receive reports on accidents and incidents from operators and take the necessary measures to deter such events both in the near and long term
- Evaluate the extent and boundaries of safety zones
- Coordinate with the competent authorities in aspects related to environmental matters
- Monitor the compliance of operators with regulations on safety, systems for workers protection, health and the environment
- Evaluate the impact of operations on the environment, occupational health and safety, local communities and the global environment

- Monitor facilities and audit their performance to ensure compliance of petroleum operations with environmental as well as health and safety standards

In addition to the LPA and MOE, the Ministry of Public Works and Transport (MOPWT) has a notable role, being the marine competent authority responsible for all matters related to national maritime transportation activities in line with local and international maritime requirements (e.g. SOLAS and MARPOL). Furthermore, according to Law 444/2002, the MOPWT has a role in the protection of the marine environment from pollution in coordination with the MOE. Article 31 of Law 444/ 2002 stipulates that the MOPWT may, based on environmental assessment studies, authorize the discharge, sinking or burning in territorial waters and under the seabed in territorial waters, of materials that do not cause the damages mentioned in Article 30 of this law (see Fact box 1.1), with conditions set to prevent damage from the authorized operations to the marine environment. The conditions for granting the above-mentioned permits are yet to be issued. However, the MOPWT does not have a legally established role in reviewing and approving environmental assessment submissions but may be consulted by the MOE and/or LPA and invited to give their opinion on matters under their jurisdiction.

Fact box 1.1 – Article 30 of Law 444/2002

With due observance of the provisions of international and regional treaties to which Lebanon has adhered, all discharges, immersions or burning in the Lebanese territorial waters of every material are strictly forbidden, that may directly or indirectly:
- Affect the health of human beings or natural marine resources.
- Harm the activities and marine creatures, including shipping, fishing, flora and seaweed.
- Corrupt the quality of marine water
- Reduce the entertainment value and tourism possibilities of the sea and the Lebanese coast

A decree taken in the Council of Ministers, upon the proposal of both the ministers of Environment and Public Works and Transport, shall list the materials referred to in Paragraph (1) of this article.

Other entities that may be consulted on environmental assessment submissions include the Ministry of Agriculture (Department of Fishing and Hunting), the Ministry of Labor, the Ministry of Public Health, the Ministry of Social Affairs, the Ministry of Culture, the Lebanese Atomic Energy Commission (LAEC), the National Council for Scientific Research (CNRS), among others.

Entities involved in environmental inspection, monitoring and supervision include the MOE, the LPA and the LAEC.

1.3.1 Harmonization with other Relevant Guidelines

1.3.1.1 Lebanese Guidance

All oil and gas project environmental assessment submissions for approval should demonstrate full compliance with National Legislation (Refer to Section 1.2) and international commitments. Furthermore, relevant authorities such as LPA have an ongoing focus on providing guidance on the implementation of Lebanese oil and gas regulations. Proponents are required to ensure that the legislation and the guidance available and applicable at the time are adequately considered.

1.3.1.2 *International Good Practice on EIA*

Oil and gas project environmental assessments should demonstrate compliance with the national environmental standards as the legal minimum. These include those related to discharge of wastewater, permissible noise and dust levels, and air quality, among others as defined in MOE Decision 8/1 of 2001 and 52/1 of 1996, wherever applicable to the offshore oil and gas sector, in addition to other standards that may be defined by the Lebanese Authorities. Requirements of international conventions ratified by Lebanon shall also be adhered to (e.g. the Barcelona Convention, the Basel Convention, the Stockholm Convention).

In case of absence of national standards or if national standards are less stringent than Best International Petroleum Industry Standards (or GIIP), the Proponent is expected to adopt the latter as project standards.

The Guidelines refer to international standards/guidelines produced by the following organisations:

- International Finance Corporation (IFC)
- The Global Oil and Gas Industry Association (IOGP)
- The Global Oil and Gas Industry Association for Environmental and Social Issues (IPIECA)
- International Union for Conservation of Nature (IUCN)
- The Joint Nature Conservation Committee (JNCC)

The applicable IFC guidelines relevant to the oil and gas sector comprise:

- EHS Guidelines for Onshore Oil and Gas Development
- EHS Guidelines for Offshore Oil and Gas Development
- EHS General Guidelines
- Good Practice Note No.4: Managing Retrenchment
- IFC Performance Standards No. 1 – 8 on Environmental and Social Sustainability
- IFC Handbook on Projects and People addressing Project-induced in-migration

Note that while the Guidelines refer to the guidance documents above being relevant at the time of their development, the Proponent is responsible for ensuring the use of the most suitable documents and latest versions being available at the time of the preparation of the environmental assessments for approval.

Further guidance can be found within several International Conventions (even if not necessarily ratified by Lebanon), such as the Convention on Environmental Impact Assessment in a Transboundary Context (ESPOO Convention) and the OSPAR Convention.

1.3.1.3 *Coordination with the Strategic Environmental Assessment*

The Proponent should consider during the EIA preparation the applicable Strategic Environmental Assessment(s) (SEA) for Petroleum Activities in Lebanese Waters, as well as any other relevant Lebanese SEAs. The SEA related to the Petroleum Activities forms the basis for the development of EIAs in the offshore oil and gas sector and guides decision making on the best practices for environmental and socio-economic management of project activities.

1.4 Content of the EIA Guidelines

In addition to the introduction section, these Guidelines comprise the following:

Section 2 provides guidance on implementation of the EIA requirements for offshore oil and gas developments in Lebanon. It provides for specific recommendations needed for the Proponent to comply with both the EIA and the offshore oil and gas relevant regulations in Lebanon related to reconnaissance and exploration drilling activities.

Section 3 provides guidance on IEE/ EIA submissions for approval for reconnaissance activities, starting by the screening application followed by the IEE and the Scoping and EIA Reports, including both methodology and content.

Section 4 provides guidance on IEE/ EIA submissions for approval for exploration drilling, starting by the screening application followed by the Scoping and EIA Reports, including both methodology and content.

Note that Sections 3 and 4 are intended to be standalone, self-sufficient chapters to be used independently by the Proponent, based on the type of activities (reconnaissance OR exploration drilling) for which the environmental assessment is being undertaken. Hence, these sections will appear repetitive if read together, due to certain similar requirements.

Appendix A provides an example list of stakeholders to be consulted when conducting EIAs.

Appendix B provides a non-exhaustive list of national legislation and international conventions that are relevant at the time of preparation of the Guidelines.

Appendix C provides the principles for the design of an offshore environmental baseline survey and associated procedures for the submission and review of the survey scope and the survey report describing the survey findings.

Appendix D provides guidance on the minimum content of sub-plans expected to be included in the Environmental Management Plan.

Figure 1.1 presents a summary of the content of the Guidelines and how they are to be used based on project type.

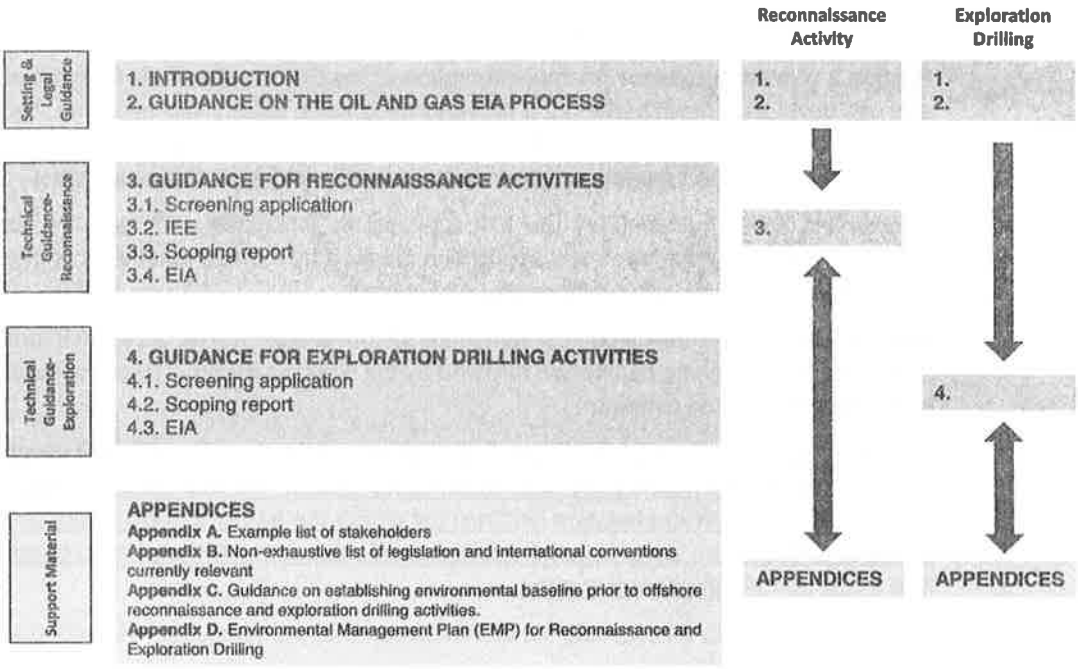

Figure 1.1. Guidelines summary content and usage modality

2 GUIDANCE ON THE OIL AND GAS ENVIRONMENTAL ASSESSMENT PROCESS

This section encompasses general information on environmental assessment (project screening, IEE and EIA) processes in Lebanon in addition to specific guidance for reconnaissance and exploration drilling activities connected to oil and gas development.

Details on the production and content of necessary documentation related to the environmental assessment system and stakeholder consultation are covered in Section 3 for Reconnaissance, and respectively in Section 4 for Exploration Drilling activities.

2.1 The Environmental Assessment System in Lebanon

The Environmental Assessment Process according to the EIA Decree is illustrated in Figure 2.1 below.

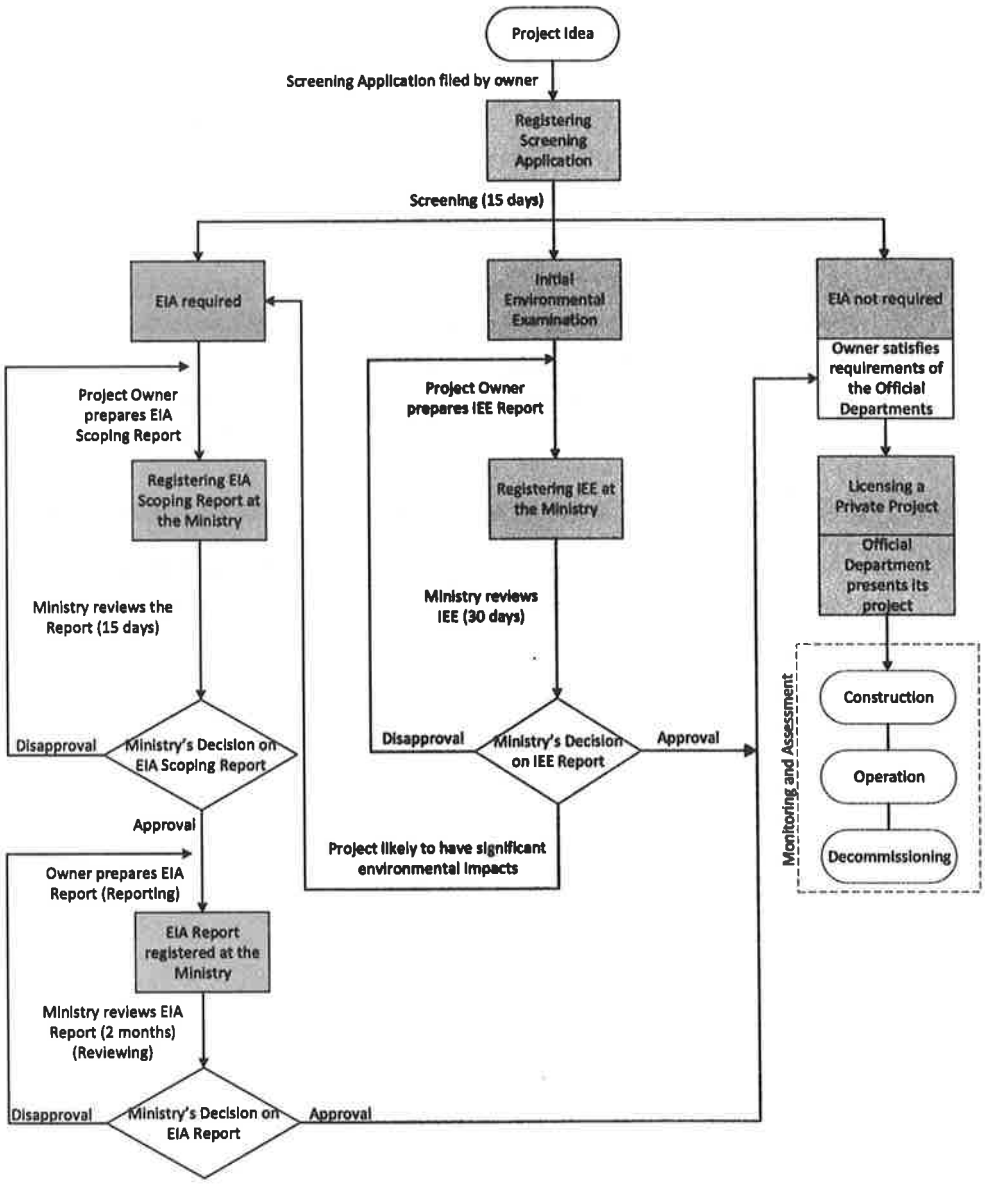

Figure 2.1. Diagram of the EIA System (reproduced after Annex 9 of Decree 8633/2012)

The offshore petroleum activities legislation, namely the OPRL, the PAR and the EPA, specify the applications required during the life cycle of the petroleum activities including associated requirements on general environmental assessments and EIA. A dedicated process has been developed to align the responsibilities of LPA and MOE as both have environmental responsibilities. Figure 2.2 visualises the modalities between the Proponent, LPA and MOE for the submission, review and approval of Environmental

Assessments (IEE or EIA). Section 2.1.12.1.2 and 2.1.2 provide the most relevant information related to this legislation.

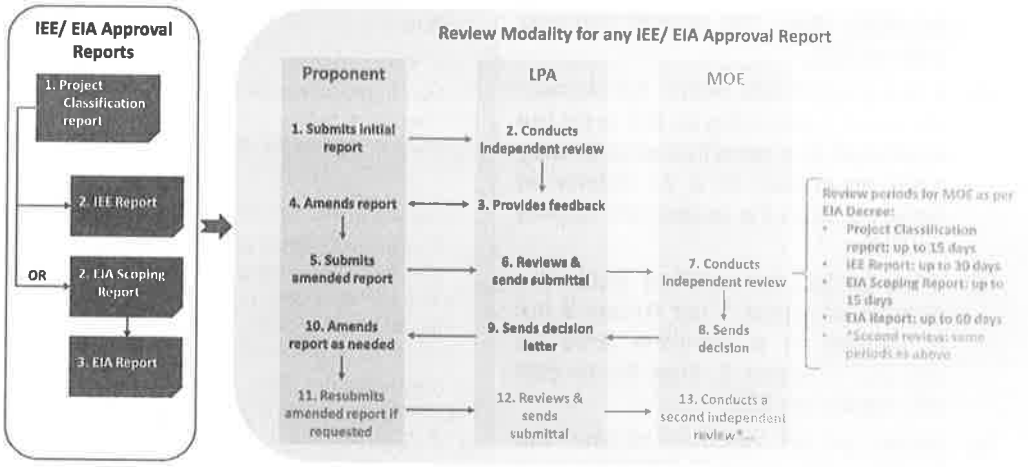

Figure 2.2. Modalities of the relevant parties for report submission, review and feedback of IEE/ EIA documents

All submissions should be provided in English language. The Non-Technical (Executive) Summary of an EIA should be provided also in Arabic.

2.1.1 Project Screening

According to the EIA Decree, the MOE decides whether the project requires an IEE, an EIA or neither IEE nor EIA. The MOE also decides on the potential need for an environmental baseline survey and its related scope. See Appendix C for more detail regarding procedures for survey scope development, survey techniques and reporting of survey results. Survey requirements additional to those described in Appendix C could be applicable depending on the project under consideration.

The process is officially initiated by the Proponent via the submission of a screening application as presented in Annex 4 (EIA Classification Model) of the EIA Decree and relevant supporting documentation. The Proponent submits the documentation to the LPA. The submission to LPA shall include 2 hard copies and 2 electronic copies in pdf and in native file formats (Word, Excel, Shapefile, jpeg, ESRI geodatabase, etc.). LPA will review the documentation and provide feedback to the Proponent. After an eventual amendment, LPA then submits the updated application to the MOE via an official letter by the Minister of Energy and Water upon recommendation from the LPA. The updated (final) screening application will be submitted to MOE in 1 hard copy and 1 electronic copy.

The MOE reviews the screening application and decides whether the project requires an IEE or an EIA as follows (See Fact box 2.1):

a) If the project type falls within the domain of Annex 1 (List of Projects Requiring an EIA), then it requires an EIA.
b) If the project falls within the domain of Annex 2 (List of Projects Requiring an IEE), then the project requires only an IEE.
c) If the project falls within the domain of Annex 2 (requiring an IEE only) but is located in a sensitive area or may have an impact on it as defined in Annex 3, then the project will require an EIA.
d) If the project falls neither within the domain of Annex 1 nor Annex 2 but is located in a sensitive area as defined in Annex 3, then the project will require an IEE.
e) Based on an informed review, the Minister of Environment has the right to request an IEE or an EIA for a particular project, even if it does not meet the criteria set in Annexes 1 to 3.

Fact box 2.1:
Relevant EIA Decree Annexes

Annex 1 (projects requiring an EIA)
1.9 - Oil and Gas: Installation of pipelines on/off the beaches, extraction of oil and gas, oil refineries, oil platforms and oil tanks

Annex 2 (projects requiring an IEE):
No mentioning of oil and gas development projects or components

Annex 3 (Environmentally Sensitive Areas):
1. Areas classified as protected areas, natural environment protected areas, wetlands or important areas of birds or natural scenery sites, historic and/or archaeological locations or holy places
2. Areas that are home of endangered species.
3. Watersheds
4. Sea beaches
5. Public land

In addition to the above, the potential for significant impacts as a result of unplanned events should be taken into account during screening. Unplanned events can include natural events (seismic events, cyclones etc.) as well as accidents (blowout, etc.). Furthermore, as a general rule and in accordance with good practice, activities involving any physical resettlement would normally require an EIA.

Overall, the level of environmental and social impact assessment shall be related to the scale of the potential impacts depending on, for example, the presence of potentially sensitive receptors (Valued Ecosystem Components including both environmental and social components, VECs). When discussing activities in Environmentally Sensitive Areas (ref. Annex 3 of the EIA Decree), defining such areas should also consider the presence of threatened species of the IUCN red list, as well as regulations such as Lebanon's Marine Protected Areas Strategy and the RAMSAR Convention on Wetlands, in addition to any other relevant international convention signed and ratified by Lebanon for the protection of biodiversity such as the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic area (ACCOBAMS) and the Convention on Biological Diversity (CBD), among others.

The assessment of environmental and social impacts should, as a principle, be undertaken in an integrated manner. However, depending on the expected scale of social impacts, a dedicated social impact assessment (SIA) with associated social management plan (SMP) may be required. Such SIA, when required, would be a stand-alone submission to LPA but closely coordinated with the EIA. The process for a potential SIA submission by the Proponent and the review by LPA and relevant authorities i.e. MOSA, as applicable, would be similar to that of an EIA as described in Section 2.1.2.

The MOE has up to fifteen (15) days to respond to the screening application. During this period the MOE will prepare a project classification report and issue a letter determining

if the project requires an EIA, IEE, or no environmental assessment along with some recommendations. The letter will be sent to the Minister of Energy and Water copying the LPA and the Proponent. The MOEW will inform the Proponent of MOE's decision and any related information (Figure 2.2).

The EIA Decree allows for three decisions by the MOE:

- The proposed project can be pursued without further environmental assessment
- Requirement to undertake an IEE
- Requirement to undertake an EIA

If no response is provided by the MOE within this time frame, the Proponent may proceed in a manner that does not contradict with the project screening articles within the decree (referred to as 'project classification' in the EIA Decree).

2.1.2 IEE and EIA

Similar to the screening application, the IEE prepared by the Proponent is submitted to the LPA (1 hard copy, 1 electronic copy in pdf format, and 1 electronic copy in native file format (Word, Excel, Shapefile, jpeg, ESRI geodatabase, etc.) who will undertake reviews as needed before the final IEE is sent onwards to the MOE via an official letter from the Minister of Energy and Water (Figure 2.2). The final IEE submission to MOE requires 5 hard copies and 1 electronic copy in pdf format.

The MOE reviews the submission within the time frame of thirty (30) days as provided in the EIA Decree and provides feedback on its review via an official letter with the review committee technical report to the Minister of Energy and Water copying the LPA and the Proponent.

The procedures for reviewing an IEE are detailed in MOE Decision 260/1 (2015).

The EIA Decree allows for the following feedback by the MOE:

- Advising the Proponent to prepare an EIA. This may be the case if the IEE demonstrates that the proposed project may have significant environmental impacts
- Approving the IEE and advising the Proponent that no EIA is required as the IEE demonstrates that no significant environmental impacts are likely and that adherence to the EMP is sufficient to mitigate impacts
- Advising the Proponent that some information provided in the IEE requires correction and/or additional information. An updated IEE is then resubmitted, and a review is undertaken by the MOE within 30 days

Upon receiving feedback from MOE on the submitted IEE, the MOEW will communicate, via an official letter, the final decision to the Proponent in light of MOE's response and of LPA's recommendation. The Proponent can consult with LPA for reviews and clarifications on the IEE, as needed, a priori of IEE submission to LPA.

If an EIA is required, a scoping phase is initiated according to the EIA Decree, Article 7 and Annex 7.

Similar to the screening application and the IEE, the Scoping Report prepared by the Proponent is submitted to the LPA (1 hard copy, 1 electronic copy in pdf format, and 1 electronic copy in native file format (Word, Excel, Shapefile, jpeg, ESRI geodatabase,

etc.) who will undertake reviews as needed before the Scoping Report is sent onwards to the MOE via an official letter from the Minister of Energy and Water with 5 hard copies of the Scoping Report and 1 electronic copy in pdf format.

The MOE will review the Scoping Report within fifteen (15) days upon receipt of the documentation and provide the conclusion regarding its content to the Proponent via the Minister of Energy and Water and the LPA.

The conclusions of the MOE include the following options:

- Approval of the Scoping Report
- Approval on condition of addressing requests and changes within the EIA Report
- Request for amended Scoping Report addressing MOE feedback

In the latter case, the MOE will review the additional submission upon receipt within a period of fifteen (15) days and declare its conclusions, including the technical review report annexed in an official letter to MOEW copying LPA and the Proponent.

LPA will review the submitted Scoping Report in parallel with the MOE review (15 days).

Upon receiving the feedback from MOE on the submitted Scoping Report, the MOEW will communicate via an official letter, the final decision to the Proponent.

Should the MOE not respond within fifteen (15) days of a submission, the Scoping Report is considered approved by MOE and the Proponent may proceed with the EIA process in a matter that does not contradict with the EIA Decree. In this case, the Proponent should address any comments raised by LPA in the official letter of MOEW.

The procedures for reviewing the Scoping Report and the EIA are detailed in MOE Decision 261/1 of 2015. The Minister of Environment can request an external expert to support the review of the EIA as per Article 16 of the EIA Decree and the circular of the Minister of Environment 6/1 dated 15/6/2015.

Similar to the IEE, the EIA Report prepared by the Proponent is submitted to the LPA (1 hard copy, 1 electronic copy in pdf format, and 1 electronic copy in native file format (Word, Excel, Shapefile, jpeg, ESRI geodatabase, etc.) who will review it and provide feedback to the Proponent. The LPA will then send a revised final version onwards to the MOE via an official letter from the Minister of Energy and Water with 5 hard copies of the EIA and 1 electronic copy in pdf format with the EMP also in Excel (xls) format (Figure 2.2).

The MOE review committee has up to 60 days to declare its position on the EIA Report. In case of addressing comments in the form of an updated EIA or an addendum to the EIA the committee will have up to 60 days to review the report.

After reviewing the final version of the EIA Report, the MOE's decision may be (a) approval of the EIA Report, (b) conditional approval, or (c) rejection with justification. The Proponent has the right to appeal against the EIA rejection decision of the MOE within 15 days from the date of issuance of the decision.

Upon receiving the MOE position on the EIA Report, the MOEW will communicate, via an official letter, the final decision to the Proponent.

No permit is to be granted before MOE's position on the EIA/IEE is issued. Upon approval of the EIA, the Proponent signs a pledge to abide by the EMP presented within the

approved EIA report (Annex 11 of MOE Decision 261/1 of 2015) or IEE report (Annex 7 of MOE Decision 260/1 of 2015).

The acceptance by the MOE of the EIA and/or the IEE shall be valid for two years in case of the non-commencement of the implementation of the project. Upon the lapse of this period, the project owner shall advise the MOE via the LPA of their wish to follow through with the project. The Ministry will then verify if there are any new elements requiring a new EIA or IEE.

According to Law 444/2002, the Proponent is subject to a penalty if they (a) implement the project without conducting an EIA, (b) provide falsified information within the EIA Report, and (c) implement the project in a different manner than that presented in the EIA Report.

The next step following approval of the IEE or EIA Report is the implementation of the project and the EMP by the Proponent and the submission of regular reports to the MOE and LPA in accordance with the LPA's regulations and guidelines and the approved EMP.

According to the EIA Decree, in the case of an unforeseen impact during implementation, the responsibility of impact mitigation lies with the Proponent. The unforeseen impact along with the adopted mitigation measures are to be reported to the LPA and the MOE as part of the regular monitoring reports.

2.2 Reconnaissance

This section provides relevant specific guidance for reconnaissance on screening, IEE and EIA.

2.2.1 Reconnaissance Screening Application

Environmental considerations associated with Reconnaissance activities are regulated in the PAR. Article 13 of the PAR stipulates that an application for a Reconnaissance License shall, in addition to other aspects include:

- Information on the possible impact of the planned activities on the environment and the mitigation measures
- Assessment of the hazards and the health, safety and environmental plan

Furthermore, Article 15 of the PAR has a general guidance that during planning and execution of operations pursuant to a Reconnaissance License, all reasonable precautions shall be taken to prevent damage to property, marine fauna and flora, archaeological sites and relics. The same applies with regard to preventing pollution and dumping of waste to the sea, the seabed and its sediments, the atmosphere or land.

Article 43 of the PAR indicates that an EIA is not required for activities pursuant to a Reconnaissance License that, when due to their nature, do not cause specific negative impacts on existing facilities or infrastructure, the environment, public health, security and the economy in general.

However, the decision on whether an EIA will be required or not follows from the screening process according to the EIA Decree. The Proponent should therefore submit a screening application as part of the application for a Reconnaissance License according to the EIA Decree.

2.2.2 Reconnaissance IEEs and EIAs

Offshore seismic surveys in pelagic (deep water) rather than coastal waters are considered to have limited impacts on marine mammals (other than underwater noise), commercial fisheries and marine traffic, hence an EIA is usually not required. In this case an IEE including an EMP may be sufficient provided that there is reliable baseline data documenting a lack of sensitive receptors/VECs such as the presence of spawning grounds, cetaceans, etc. Seismic surveys in coastal waters, however, will usually require an EIA.

If an EIA is required, the Proponent should carefully study the process described in the EIA Decree and summarized in Section 2.1.2 above. Considerable time is necessary to perform scoping, to involve the public, to ensure adequate baseline data and to engage certified EIA consultants to undertake the EIA. The Proponent should be aware of the time needed by the LPA to review the EIA Report and give advice to the Minister of Energy and Water throughout the IEE/EIA process before submittal to the MOE (Figure 2.2). The Proponent should also be aware of the time needed for review by the MOE (30 days for IEE, 15 days for Scoping Report, and 60 days for EIA Report) for the first review, with a potential for the same review time requirements for a subsequent review after comments are presented. For a submitted addendum, the review time may be shorter depending on the scope of the addendum and the time constraints imposed by the milestones within the oil and gas regulations.

2.3 Exploration Drilling

This section provides specific guidance for exploration drilling regarding screening, IEE and EIA. It also covers appraisal drilling which, according to the EPA Decree 43/2017, Article 7.3, is defined as included in exploration.

2.3.1 Exploration Screening Application

According to the EPA Decree 43/2017, Article 7.3, the Proponent may conduct reconnaissance, exploration and appraisal activities pursuant to approved Exploration Plans. These plans should also include provision of emergency and contingency arrangements in addition to well testing activities to verify potential discoveries.

The Exploration Plan should, as a minimum, comprise the information outlined in the PAR, Article 31, which requires information regarding the eventual impact of the projected activities on the environment and the mitigation measures. This requirement is elaborated in the Exploration Plan Guidelines, as follows:

"As part of the Exploration Plan, the Operator should prepare a screening application according to Annex 4 of the EIA Decree No. 8633/2012 with a summary report identifying and evaluating potential environmental impacts for each activity conducted offshore (surveys, drilling, vessel movement, etc.) and onshore (offices, supply base operations, etc.) and mitigation measures." The screening documents should be stand-alone allowing their submission to the LPA who will coordinate review with the MOE.

As required by the PAR, Article 92, a _ must be granted before commencement of any drilling operation. The application for a permit including a drilling program might be integrated into the Exploration Plan (according to the EPA, Article 7.3) or be a stand-alone application following the approval of the Exploration Plan.

If a discovery is a potential commercial discovery, the Proponent should, according to the EPA Decree 43/2017, Article 10.3, submit to the Minister of Energy and Water, with a copy to the LPA, a separate Appraisal Plan. The requirement to submit a separate Appraisal Plan is also highlighted in the Exploration Plan Guidelines, Version 1, issued by the LPA in December 2018.

The Appraisal Plan should, according to the PAR, Article 40, be developed in accordance with Best International Industry Standards and should at a minimum contain the information stated therein, as well as a description of the proposed appraisal area (which shall be no more than two times the geographical area that the Proponent reasonably believes to include in a Development and Production Area if the discovery proves to be commercial). The PAR, Article 40, requires that the Appraisal Plan includes a technical and commercial assessment necessary to conclude on potential commerciality within the Exploration and Production Agreement Area and should include a complete description of the relevant data, surveys and evaluations which led to such conclusions.

Similar to exploration drilling, a drilling permit must be granted prior to commencement of the appraisal drilling and the application for a permit including a drilling program might be integrated into the Appraisal Plan or be a stand-alone application following the approval of the Appraisal Plan.

As explained in Section 2.3.2 below, and since the Appraisal Plan application can be based on the exploration drilling EIA, initial information regarding potential appraisal activities should be included in the screening application for exploration drilling.

2.3.2 Exploration EIA

As required by the PAR, Article 92 and stated in Fact box 2.2, a drilling permit must be granted before commencement of any individual well or well path deeper than fifty (50) meters. Drilling activities fall under Annex 1 of the EIA Decree, and an EIA will therefore be required before start of any exploration drilling.

Fact box 2.2 – Drilling Permit (PAR, Article 92)

Before commencement of drilling of any individual well or well path deeper than fifty (50) meters, a drilling permit must be granted by the Minister based on the opinion of the Petroleum Administration.
The Right Holder shall no later than eight (8) weeks prior to the planned commencement of drilling a well submit an application for a drilling permit to the Minister of Energy and Water with a copy to the LPA.
The application for a drilling permit shall consist of a drilling program and proposal for well name and registration number.
The Minister of Energy and Water shall notify the applicants no later than six (6) weeks after receiving the application, whether the application for drilling permit is rejected or approved. If the application is rejected, the Minister of Energy and Water must set out the reasons for the rejection.

The EPA Decree 43/2017, Article 7.4, states that the Exploration Plan shall be submitted to the Minister of Energy and Water with a copy to the LPA within sixty (60) days of the approved Exploration and Production Agreement. The LPA shall review each Exploration Plan and make a recommendation to the Minister of Energy and Water as to whether to approve such a plan within sixty (60) days of its submission to the LPA (EPA Decree 43/2017 Article 7.7).

Furthermore, according to the PAR, Article 92, the Proponent shall submit an application for a drilling permit no later than eight (8) weeks prior to the planned commencement of drilling and the Minister of Energy and Water shall notify the applicants of the decision no later than six (6) weeks after receiving the application (see Fact box 2.2).

Taking into consideration these time restrictions regarding the approval of the Exploration Plan and the approval of the application for drilling permit, and the fact that the MOE requires up to sixty (60) days to review an EIA according to the EIA Decree, Article 9, there is not sufficient time to integrate an approved EIA Report in the application for a drilling permit if submitted at Exploration Plan phase, hence the application for a drilling permit including an approved EIA Report should be undertaken and submitted after the approval of the Exploration Plan.

Figure 2.3 below illustrates the EIA process for the Exploration Plan and the Application for Drilling Permit. It indicates the importance of adequately scheduling the EIA process to allow time for the LPA and MOE review before the final decision on the EIA, while complying with the timelines required by the PAR and the EPA Decrees.

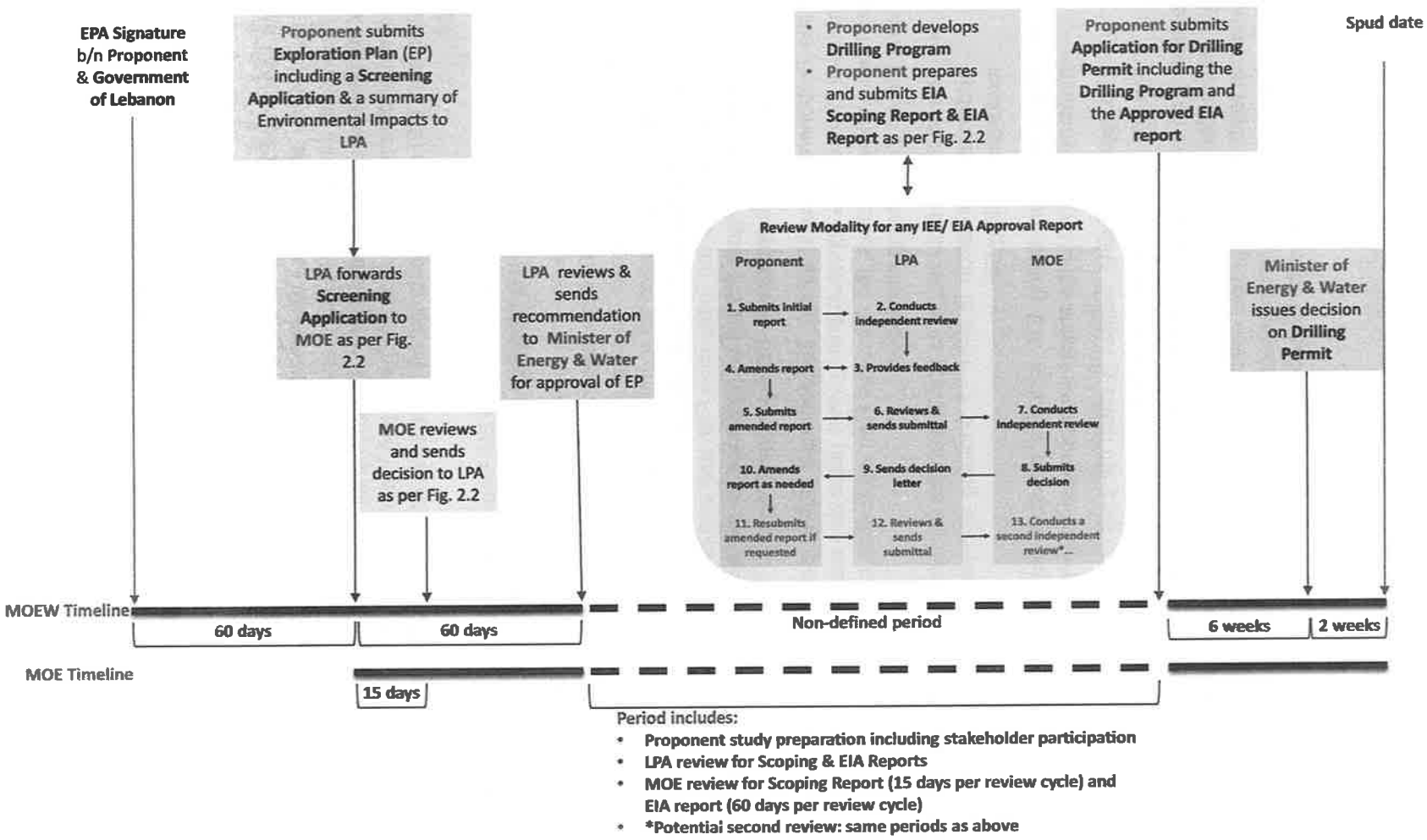

Figure 2.3. Exploration Plan and Application for a Drilling Permit

This procedure supports an integrated planning process between the undertaking of the EIA and the development of the drilling program facilitating refinement of technical options and mitigation measures. Any onshore and offshore support activities connected to exploration drilling shall be included in the EIA.

The Appraisal Plan shall, according to the EPA Decree 43/2017, Article 10.3, be submitted to the Minister of Energy and Water within sixty (60) days of the date of which the Discovery is reported to the Minister of Energy and Water, or a longer time as necessary and approved by the Minister of Energy and Water. The LPA shall review the Appraisal Plan and make a recommendation to the Minister of Energy and Water as to whether to approve such a plan within sixty (60) days of its submission to the LPA, according to EPA Decree 43/2017 Article 10.6.

Appraisal drilling falls under Annex 1 of the EIA Decree as in the case of exploration drilling and an approved EIA Report is therefore required prior to drilling.

Due to the sixty (60) days review time to approve the Appraisal Plan by the Minister of Energy and Water and the sixty (60) days response time on the EIA approval by the MOE, there is not sufficient time to integrate the application for a drilling permit including an EIA in the Appraisal Plan. The application for a drilling permit including an EIA should therefore, as a general rule, be undertaken and submitted after the approval of the Appraisal Plan which is the similar process as for the Exploration Plan and application for drilling permit above. The process illustrated in Figure 2.3 will be replicated for the Appraisal Well, with the screening application submitted together with the Appraisal Plan.

If the Proponent plans to submit the appraisal drilling permit application as part of the Appraisal Plan and the appraisal drilling takes place as a subsequent well in an existing and restricted exploration block, the Appraisal Plan application can be based on the exploration drilling EIA on the following conditions:

- The MOE has included, in its position on the exploration drilling EIA, a condition for additional information in case of pursuing appraisal activities in relation to the exploration drilling EIA
- The exploration drilling EIA includes possible activities, impacts and mitigation measures related to the anticipated appraisal activities based on available data
- The appraisal drilling location is within the area assessed in the exploration drilling EIA and the existing environmental baseline data is considered representative

Depending on the information available at the initial time of EIA Report submission, and the new information becoming available at appraisal time (i.e. well location and technical conditions related to the appraisal drilling), MOE will require an addendum to the exploration drilling EIA. Such EIA addendum should describe any changes to the exploration drilling EIA Report, see Fact box 2.3 for the likely content of an addendum.

Fact box 2.3 – Addendum content

The Addendum should supplement the original exploration drilling EIA Report and provide information on topics that are either new or outdated whilst providing context to ensure that the documentation can be easily understood. Information should, inter alia, include:

- Tabular overview over what has changed from the original EIA Report, incl. chapter numbers for easier reference
- Baseline data as appropriate incl. discussion of what is potentially different from the original EIA
- Project description for new/changed locations and activities (aspects), particularly well testing, any new chemicals, contingency, etc.
- Impact assessment of routine as well as accidental events regarding new/changed locations and activities, supported by modelling as appropriate. The impact assessment should also consider cumulative impacts regarding all foreseen aspects and provide conclusions summarising the results of the impact assessment.
- Complete appraisal drilling EMP covering relevant locations and all activities/aspects foreseen

This EIA addendum will be reviewed by the LPA and MOE according to the procedure in Figure 2.2.

If the final appraisal drilling location and activities are outside the area assessed in the exploration drilling EIA Report, MOE may require to undertake a separate appraisal drilling EIA. See Figure 2.4 for the overall approach regarding the required level of environmental assessment.

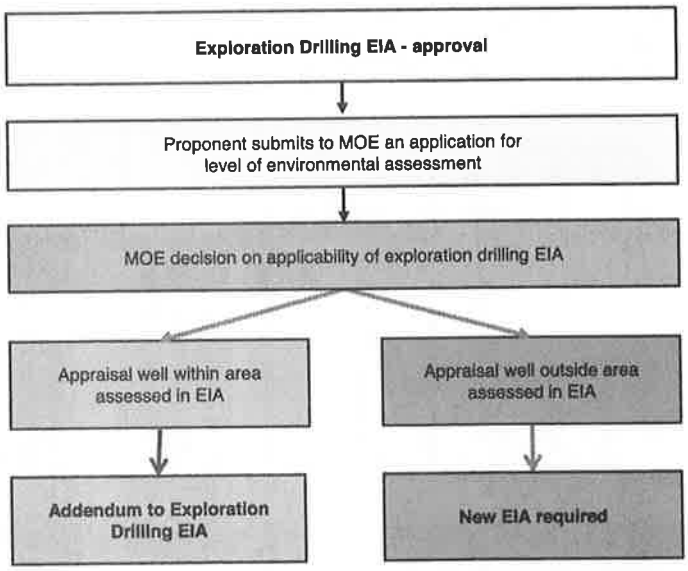

Figure 2.4. Approach for the required level of assessment

A similar approach would be taken for any other well being part of the exploration program in case the information provided in the exploration drilling EIA Report is considered insufficient. Figure 2.5 below illustrates the addendum review process by the LPA and MOE when submitted together with the Appraisal Plan and the Application for Appraisal Drilling Permit.

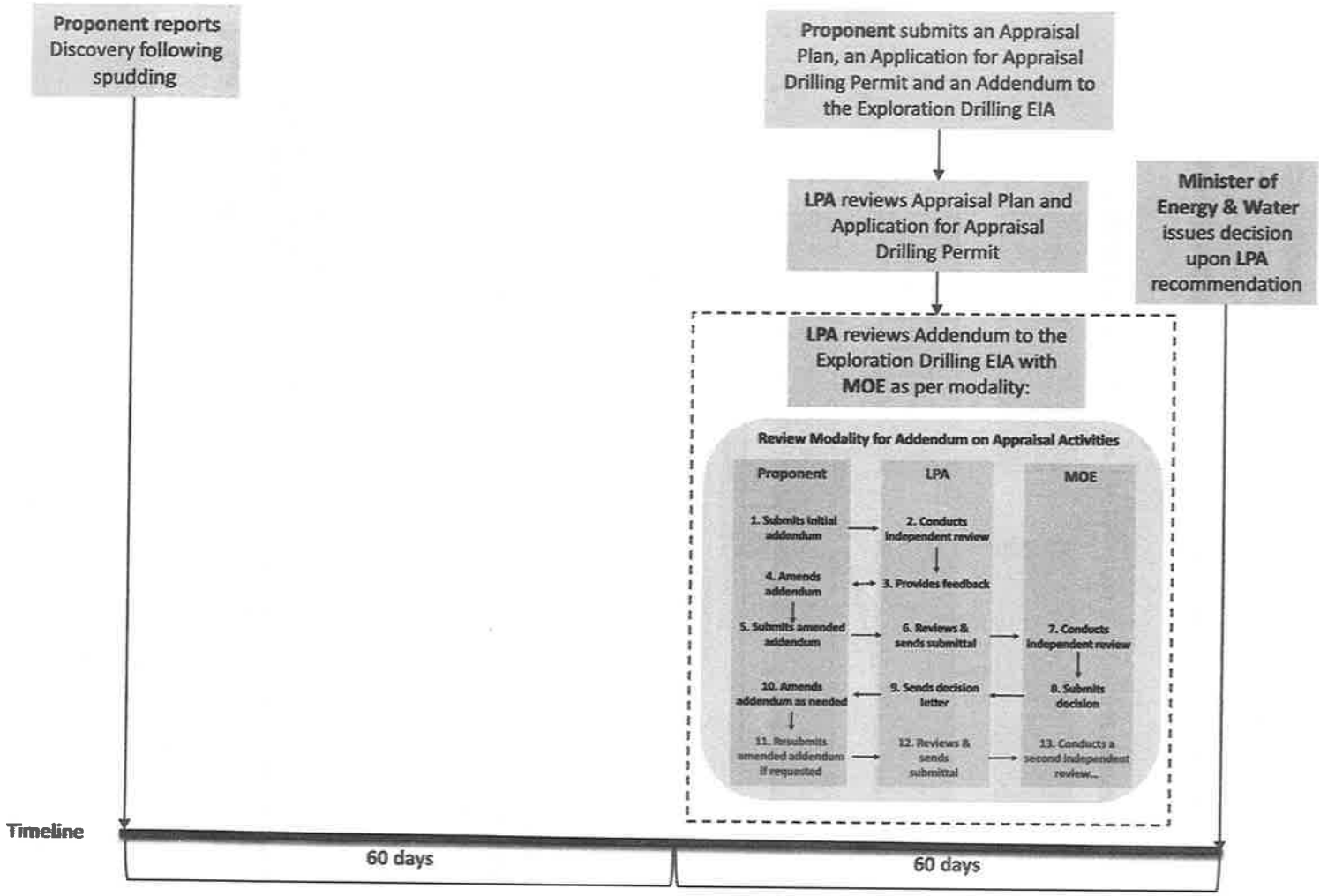

Figure 2.5. Appraisal Plan and Addendum for Appraisal Drilling

3 GUIDANCE FOR RECONNAISSANCE ACTIVITIES

This section provides guidance on documentation potentially required for environmental assessment approvals to undertake reconnaissance activities. Section 2.2 describes the screening process and the potential for an environmental assessment. The submission of a screening application by the Proponent and the associated screening process at the MOE will decide whether an environmental assessment report submission is required. The outcome of the screening process can be that the proposed reconnaissance activity may be pursued without further environmental assessment, or that an IEE or an EIA is required.

The following sections describe the report requirements for each type of submission.

3.1 Screening application

The EIA process is officially initiated by the Proponent via the submission of a screening application as presented in Annex 4 (EIA Classification Model) of the EIA Decree and relevant supporting documentation. In addition to the items required in Annex 4, the Proponent should provide documentation to enable the MOE to classify the project in accordance with the EIA Decree. Relevant documentation, i.e. a concise project brief, needs to be appropriate for a screening stage, tailored to the project specifics and should include:

- Preliminary definition of the tentative area of influence based on secondary data, not just the physical area of the project, as this is needed to identify the preliminary known range of impacts of planned as well as unplanned events considering also transboundary impacts.
- Identification of the already known key alternatives – justifying their choice where key decisions have already been made. For reconnaissance, alternatives may include surface towed receivers versus ocean bottom receivers, the timing of surveys to avoid ecologically sensitive periods, use of various supply bases, etc. as far as known at this stage.
- Inclusion of a brief review of the baseline environmental and socio-economic conditions based on secondary data identifying key potentially important and/or sensitive receptors/VECs that may affect the screening of the project.
- Identification whether the project may affect any of the environmentally sensitive areas in line with Annex 3 of the EIA Decree, while considering the list/definition of such areas defined in other regulations, e.g. the Lebanon Marine Protected Areas Strategy (MOE/ IUCN, 2012), the RAMSAR Convention on Wetlands (Ramsar 2018), the Convention on Biological Diversity (CBD) (ratified in Lebanon via Law no 360/1994); the Barcelona Convention for Protection against Pollution in the Mediterranean Sea, specifically the 1982 protocol concerning Specially Protected Areas (ratified via Law No. 292/1994) and the Conservation of Cetaceans in the Black Sea, Mediterranean Sea and contiguous Atlantic (ACCOBAMS) (Grant to join via Law No. 571/2004).

- Identification of other existing or planned projects known at this stage with a potential to create significant cumulative impacts.

Proponents should make specific reference in the project brief to whether the main project requires any related facilities or associated developments (as defined in IFC PS1, paragraph 8 (IFC 2012)). They should also briefly but explicitly identify and assess the likely impacts of any potential related or associated developments in the project brief and make a clear proposal for whether or not the related or associated development should be considered in the screening decision.

According to the EIA Decree, Proponents should avoid dividing projects into smaller units specifically to avoid the need to undertake an EIA as each of the smaller units may have less significant impacts due to a more limited technical scope, spatial and temporal extent.

3.2 IEE

The content of an IEE is presented in Annex 6 of the EIA Decree and summarized in Fact box 3.1.

In addition to this, and as a general rule, IEEs should focus on:

- Adequate definition of the area of influence, not just the physical area of the project, as this is needed to identify the full range of impacts of planned as well as unplanned events.
- Identification of key alternatives – justifying their choice where key decisions have already been made. For reconnaissance, alternatives may include surface towed receivers versus ocean bottom receivers, the timing of surveys to avoid ecologically sensitive periods, use of various supply bases, etc.
- Description of the baseline environmental and socio-economic conditions identifying key potential important and/or sensitive receptors/ VECs that may be affected by the project. In case adequate baseline data is not available, and there is potential for important or sensitive receptors to be present, survey efforts may be necessary to ensure they are identified and sufficiently described.
- Identification and assessment of impacts from planned and unplanned events, including potential transboundary and cumulative impacts, to be undertaken using a similar approach as for an EIA (see Section 3.3.7.5 - 3.3.7.6).
- IEEs should contain a register of all the mitigation measures proposed (the commitments register). The commitments in the register should in turn be fully embedded into the EMP to ensure implementation (see also Section 3.3.7.6).

Fact box 3.1

Annex 6 of the EIA Decree:

Information required for the IEE report

1. Executive summary
2. Table of Contents
3. Introduction
4. Policy, legal and administrative framework
5. Description of the proposed project
6. Description of the surrounding environment of the area of influence (physical, chemical, biological, socio-economic baseline)
7. Impact Assessment
8. EMP
9. Conclusion
10. Annexes (as relevant)

- EMPs including Environmental Monitoring Plans (EMoPs) and an overview of topics covered in the full Emergency Response Plan (ERP) with a focus on environmental arrangements for emergencies to be included but should be appropriate to the scale of the predicted residual impacts (for planned impacts) and the scale and nature of potential for unplanned events. In accordance with the OPRL, the complete ERP is a separate delivery from the Proponent to the LPA and not part of the IEE.

IEE reports should be concise and focused. According to the EIA Decree, an IEE does not require scoping, public consultation or analysis of alternatives. Despite scoping not being a formal requirement, the Proponent should undertake a brief workshop with the LPA/MOE to present the Proponent's proposal and agree on the IEE scope of work prior to IEE preparations to align on expectations and avoid potential time-consuming misunderstandings. In this context, the area of influence should also be defined based on available baseline data. The brief scoping workshop will allow scoping of potential significant impacts early in the process of preparation and including the results in the IEE report. It is required to present explicit justification when topics understood as "standard" are omitted.

According to the EIA Decree, public participation is not a requirement for an IEE. The IEE preparation and review might, however, require consultation with relevant agencies, as appropriate. The LPA/MOE might also request further consultation with relevant agencies as needed.

Should a Proponent want to undertake public consultation, the Proponent should discuss proposals for undertaking consultations with the LPA and MOE at the commencement of the IEE to ensure they are acceptable to the relevant authorities. In such cases, notes of meetings with stakeholders and the public should be prepared and attached to the IEE. The minutes should contain a signed list of attendees.

3.3 Scoping Report

If the screening results in the requirement to undertake an EIA, scoping is the first step in the EIA process. The Proponent shall prepare a Scoping Report according to the EIA Decree, Article 7. Annex 7 of the EIA Decree provides an outline of the information required, see Fact box 3.2.

In addition, the Proponent should consider chapters to describe:

- The policy, legal and administrative framework
- Public participation
- The project description as far as known
- The baseline conditions as far as known
- The preliminary impact identification

The area of influence should be refined, based on the initial assessment included in the project brief.

Fact box 3.2

Annex 7 of the EIA Decree:

Information required for the Scoping Report

1. Introduction
2. Background information
3. Objectives
4. EIA requirements
5. Study area
6. Scope of work (for EIA)

It is also important to identify potentially affected stakeholders at this stage and to consider any related facilities and associated developments as well as potential unplanned events.

Proponents should undertake a gap analysis of available information against the information needed to identify, describe and assess important and/or sensitive receptors and potentially significant impacts. The likely accuracy and robustness of secondary baseline data should also be assessed. The results of the gap analysis and review of secondary data should be explicitly linked to the recommendations for the scope and breadth of baseline studies and investigations required in the Scope of Work (see Section 3.3.7.43.3.7.5). In cases where baseline surveys, relevant to the EIA or licensed Block, are initiated by the Proponent before the EIA, the scope of work of the baseline survey should follow the requirements described in these Guidelines.

Proponents should identify potentially significant impacts (positive and negative, planned and unplanned) and screen out minor ones. An explicit justification should be provided when topics understood as "standard" are omitted due to their limited importance in the context.

Cumulative and transboundary impacts should be scoped.

The proposed impact assessment methodology, to determine impact significance in the EIA, should be described. The assessment methodology should be in accordance with Section 3.3.7.5.

3.3.1 Introductory chapters

As outlined in Annex 7 of the EIA Decree, the Scoping Report should begin with general chapters, including the introduction, background, objectives and EIA requirements. These chapters need to be considered by the Proponent as part of the required scope for the EIA.

A section on the study area should follow. This section should define the area of influence of the project activity, as determined by the principles described in Section 3.3.7.4.

3.3.2 Policy, legal and administrative framework

In this section, the Proponent should describe all relevant local, national (e.g. legal requirements, decrees and decisions) as well as international conventions (e.g. the Barcelona Convention and the Basel Convention), treaties and other legal and administrative frameworks relevant for Lebanon. Their relevance to the project should also be described as far as known during the scoping stage.

3.3.3 Public participation

Stakeholder engagement is an integral part of the EIA process that starts during scoping and continues throughout the EIA process, project implementation and beyond.

Consultations during the scoping phase are aimed at informing the stakeholders about the project, receiving their issues and concerns, identifying their potential for being involved in the EIA, and receiving their input into the scope of work for the EIA.

The Proponent should develop and implement a Stakeholder Engagement Plan (SEP) for the scoping phase.

The Proponent should identify the stakeholders to be consulted in close coordination with the MOE and LPA at the early scoping stage and share the SEP with LPA and MOE for alignment on stakeholders and planned stakeholder meetings. Annex 5 of the EIA Decree provides an overview of potential stakeholders, which needs to be tailored to the project specifics and the project's area of influence. Appendix A of these Guidelines provides an example list of stakeholders potentially relevant. The SEP for this and subsequent stages of consultation should be shared at the outset with the LPA and MOE for alignment.

A stakeholder analysis should be undertaken to consider:

- Identification of different types of stakeholders such as relevant ministries, local authorities (including governorates and municipalities), businesses, academic institutions, NGOs, project affected communities (PACs), project-affected parties (PAPs, such as professional associations & syndicates of divers and fishermen, tourism operators and women).
- Analysis of PAP-specific impacts from the project and potential PAP influences over the project. This will enable the identification of vulnerable people (such as artisanal fishermen) who may be more severely impacted by project activities and less prepared to deal with impacts, as well as PAPs who may have an important role to play in the project and should be prioritised during the stakeholder engagement.

The SEP should outline activities specific for each group of stakeholders in terms of type of engagement (public meeting, workshop, bilateral meetings, focus groups, etc.) types of materials required (PowerPoint presentations, brochures, non-technical summaries of the EIA Report, etc.) the language used (English and/or Arabic), and type of information to be conveyed. It should include information such as the list of stakeholders, roles as for example who is coordinating and leading public meetings, and formal grievance mechanisms enabling stakeholders to voice concerns and get them addressed in a timely and effective manner. It should also include data recording and management strategy (systems to log all consultations undertaken and systems for documenting and sharing minutes from meetings), budget, timeline and organisational logistics. The SEP should also define the means of dissemination of the draft report for consultation (electronic and/or paper copies, etc.) and advertising (newspaper, broadcasting, etc.). The overall process for scoping consultations should be as follows:

- The Proponent should arrange consultation meetings with stakeholders as defined and agreed upon in the SEP as early as possible. Sharing the SEP for alignment should not be an obstacle to initiate consultations. At least one general public meeting shall be held, to which all relevant stakeholders shall be invited.
- The Proponent should send out invitation letters for the public consultation session to the relevant authorities as specified in the SEP, and provide proof that those letters were registered by their destined invitees at least fifteen (15) days before the date of the general public meeting(s). The invitations should include: a) a brief of the project, b) information that an EIA is required for the project and that feedback is sought from the public, c) reference to the draft Scoping Report published on the company

website or any other website agreed with MOE/LPA and providing also information about how such feedback can be provided and d) the date and location of the planned general public meeting(s).

- General public meetings shall be announced at least fifteen (15) days before being held. In addition, the meetings shall be held at least ten (10) days before the receipt of the Scoping Report by the MOE.
- **Once the draft Scoping Report is sufficiently advanced, the Proponent should publish it on its company website, or any other website as agreed with MOE/LPA for at least two weeks to solicit comments from the general public and from public authorities** (see also Figure 3.1).
- The Proponent should advertise the draft Scoping Report for consultation, as appropriate to the project context, to inform the general public about the initiated EIA process as early as possible.
- The LPA may issue a letter of information to relevant governmental entities to encourage their involvement in the EIA process and their participation in the general public meeting planned by the Proponent.
- In accordance with the EIA Decree, feedback by the public can be submitted within a period of one month once the project is advertised. Feedback should be submitted to the Proponent who will provide an automatic transfer (real time) to the LPA and MOE. The means for submitting feedback to the Proponent (e.g. via the company website and in writing) will be defined on the website, in the Proponent invitation letters, and in the LPA information letters.
- All stakeholder feedback received within the one-month consultation period will be considered in the updated Scoping Report, before submission to LPA. Any feedback received beyond this period, based on its type and content, will be considered for incorporation in the EIA Report.
- The Proponent will submit the updated Scoping Report for a first round of review by the LPA prior to submission to the MOE through the LPA. It is also important to note the potential that:
    - The LPA might engage other Ministries in the review process as appropriate.
    - The Proponent might need to update the Scoping Report based on comments received from the LPA prior to submission to the MOE through the LPA.
- The approved (final) Scoping Report will be published on the LPA website.

The Scoping Report should include a summary of the main concerns raised by stakeholders. The MOE/LPA requires minutes of meetings, with a signed attendance list, to be attached to the Scoping Report. The consultant should also include a register highlighting which stakeholders' comments were addressed and how these were addressed as well as a justification why others weren't addressed.

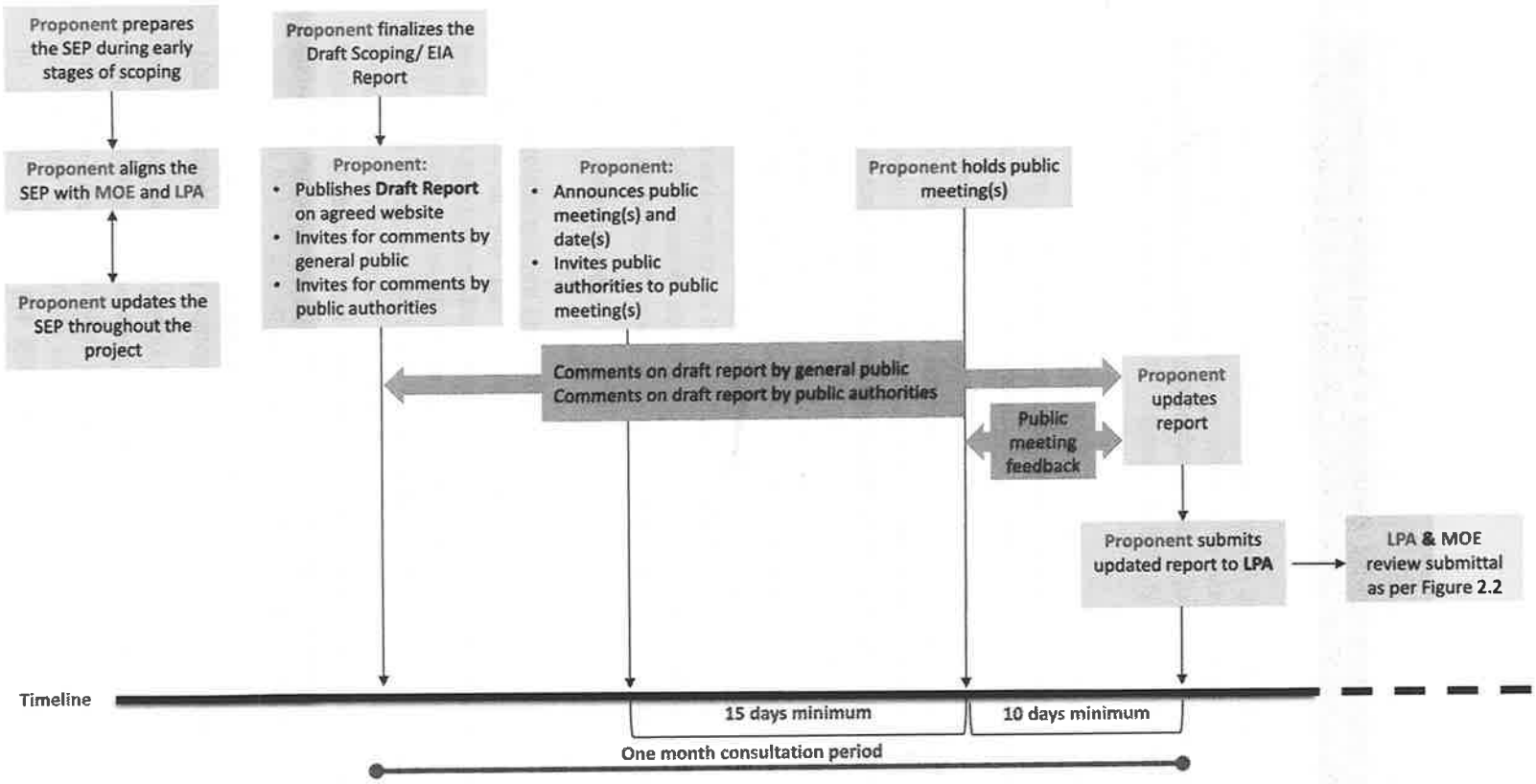

Figure 3.1. Process for SEP alignment and receiving stakeholder feedback for the draft Scoping/EIA Report

3.3.4 Project description and project alternatives identified

In accordance with the EIA Decree the Proponent should describe all project components. This includes any related and associated facilities as defined in IFC PS1, paragraph 8 (IFC 2012), such as onshore supply bases necessary to support the offshore seismic acquisition) and activities as far as known during the scoping stage. Issues not yet decided should be clearly identified.

The description should include the mobilization and implementation phase of the project, as applicable, as well as the demobilization.

Alternative options should be identified and assessed at the early stages of the project planning, which clearly represents the most effective strategy for impact avoidance and mitigation. Therefore, the Proponent should present the most significant alternatives already examined during the scoping stage including the "no-project" alternative and project development aspects such as fundamental approaches, locations and routes, layout, choice of technology, designs, operational measures and schedules/timelines as far as feasible. Further "optioneering" should be described and analysed later, during the preparation of the EIA, based on thorough integration between the technical planning/design and the EIA activities.

3.3.5 Baseline description

As part of the Scoping Report the Proponent should provide a description of the baseline environment including consideration of environmental, socio-economic and health aspects as relevant to the specific project. The description should be based on secondary data considering its quality, relevance and any assumptions regarding its applicability with respect to the project location, or primary data if available. Receptors should be identified and assessed whether to be scoped in or out and a full record of receptors (or VECs) to be considered in the EIA should be provided. Any receptors considered irrelevant for the impact assessment should be identified but scoped out providing a clear rationale why. An example of a receptor potentially scoped out for a seismic survey project is air quality as the air emissions from the vessels associated with the survey are unlikely to contribute to a significant change in ambient air quality.

A gap analysis should be undertaken to identify relevant data sources as well as data gaps. The gap analysis should form the basis for the development of the scope of work for any environmental or social survey necessary to provide relevant primary data for the EIA.

In cases where baseline surveys, relevant to the EIA or licensed Block, are initiated by the Proponent before the EIA, the scope of work of the baseline survey should follow the requirements described in these Guidelines. In this case the Scoping Report should reflect the baseline survey results in addition to any secondary data if feasible.

3.3.6 Preliminary impact identification

The Proponent should provide a preliminary impact identification based on current knowledge regarding the project description and the baseline environment including the identified receptors/VECs.

3.3.6.1 *Analysis of project alternatives*

The analysis of the alternatives in the EIA should build upon the assessment of alternatives included in the Scoping Report. All project alternatives considered should be clearly described. In line with EIA Decree Annex 8, Bullet 9, these shall encompass feasible technical options, alternative projects with the same objectives comparing various environmental and economic potentials and the zero alternative. In addition, alternatives should consider timing, location and management options. Project alternatives for seismic surveys may include e.g. the use of surface towed receivers or ocean bottom receivers, the timing of surveys to consider sensitive seasons such as migration or spawning periods and available mitigation measures such as soft start or acoustic deterrents. Proponents need to systematically identify and assess project-specific alternatives in each case. The examples above are therefore meant to illustrate typical alternatives and do not necessarily represent relevant alternatives for projects in Lebanon.

In accordance with the EIA Decree, the zero alternative shall also be evaluated. A rationale should be provided why the preferred option(s) has been chosen against other alternatives. The chosen alternative should represent GIIP, as defined in the IFC EHS guidelines for onshore and offshore oil and gas developments[2]. A reasoned justification, if the chosen option is not the GIIP, should be given. Positive as well as adverse impacts should be considered.

The EIA Decree Annex 7 foresees for the Scoping Report the "Analysis of project alternatives: preliminary description of alternatives studied during the preparation of the proposed project and listing other alternatives that can achieve the same objectives. The concept of these alternatives generally includes the selection of project site, its design and technology, construction methods and the stages, and the operation and maintenance procedures. A preliminary conclusion should be made among these alternatives in terms of potential environmental effects, their costs relative to the capital and operation, adequacy of local conditions, institutional requirements, training needs and monitoring and control requirements. It should, as much as possible, identify the preliminary cost and profits of all alternatives, as well as the estimated cost of mitigation measure. The alternative regarding the no implementation of the project should also be included to clarify environmental conditions "as is" without the project."

The assessment of alternatives should be based on the preliminary information provided during scoping. Further "optioneering" should be described and analysed during the preparation of the EIA based on thorough integration between the technical planning/design and the EIA activities.

The study of the alternatives should focus on the following:

- Compliance with Lebanese policies, laws and regulations, and relevant internationally accepted standards
- Compilation and understanding of baseline conditions
- Optimum solutions taking into consideration environmental and socio-economic sensitivities
- Potential risks related to all relevant environmental and socio-economic aspects

[2] IFC (2007) and IFC (2015)

- Acceptable available technologies/designs and mobilisation practices
- Mitigation based on the mitigation hierarchy: impact avoidance, impact minimisation/mitigation and impact compensation, and enhancement of positive impacts
- Cost effectiveness including associated environmental and socio-economic costs and benefits of each alternative

3.3.7 Scope of work for the EIA

In this section, the Proponent should describe the proposed scope of work for the EIA to be undertaken once the Scoping Report is approved.

Annex 7 of the EIA Decree provides a high level description of the required content of the scope of work (see also Fact box 3.3). The sections below (Sections 3.3.7.1 - 3.3.7.6) provide guidance on the approach to conducting the EIA of an oil and gas reconnaissance project.

Fact box 3.3

Point 6 of Annex 7 of the EIA Decree: Information required for the EIA scope of work

1. Policy, legal and administrative framework
2. Public participation
3. Description of the proposed project
4. Description of the surrounding environment
5. Potential impacts of the project
6. Analysis of project alternatives
7. Environmental management plan
8. EIA report structure

All topics should be clearly identified and described in the detail necessary to allow judgement whether the scope is appropriate.

3.3.7.1 Policy, legal and administrative framework

In this section, the Proponent should describe its approach to present all applicable local, national (e.g. legal requirements, decrees and decisions) as well as international conventions (e.g. the Barcelona Convention and the Basel Convention), treaties and other legal and administrative frameworks relevant for Lebanon and the project. The Proponent should update the information provided in the Scoping Report to ensure all relevant requirements are adequately described and their relevance to the EIA highlighted.

A non-exhaustive list of potentially applicable legal requirements and international conventions is provided in Appendix B.

3.3.7.2 Public participation

In this section, the Proponent should describe the approach to public participation during the project. Stakeholder consultation is an integral part of the EIA, hence the scoping phase SEP should be updated and tailored to the key EIA phases, considering lessons learnt from the scoping phase and following the general SEP guidelines outlined in Section3.3.3:

- Baseline and impact assessment phases: which aim at discussing impacts with stakeholders
- EIA report-back phase: which aims at informing stakeholders about the outcome of the EIA and receiving their comments

The stakeholder analysis started during scoping should be elaborated further and include:

- Identification of different types of stakeholders such as relevant ministries, local authorities (including governorates and municipalities), businesses, academic institutions, NGOs, project affected communities (PACs), project-affected parties (PAPs), such as professional associations and syndicates of divers and fishermen, tourism operators and women)
- Analysis of PAP-specific impacts from the project and potential PAP influences over the project. This will enable the identification of vulnerable people (such as artisanal fishermen) who may be more severely impacted by project activities and less equipped to deal with impacts, as well as PAPs who may have an important role to play in the project and should be prioritised in the stakeholder engagement

Overall, EIA stakeholder engagement should serve to:

- Ensure that stakeholder issues are addressed in the EIA
- Assess stakeholders' expectations to enable the Proponent to develop an expectation management strategy (i.e., seismic surveys do not have large potential for employment or local business involvement). Clear explanation of the proposed activities, spatial extent and timelines are important to manage expectations
- Assess stakeholders' capacity to be involved in the project in terms of labour and supply capacity. This information will provide vital information for assessing positive socio-economic impacts and should be incorporated into the impact assessment and Social Management Plan

The stakeholder engagement process should include a culturally appropriate grievance mechanism that enables stakeholders to voice comments and grievances, e.g. complaints regarding incomplete information and unfair or discriminating treatment, which should be addressed in a timely fashion throughout the EIA process.

The records of stakeholder engagement activities (minutes, signed attendance sheets, photos of meetings and grievances) should be captured in a database/log, which will allow issues (what was said by stakeholder) and responses (who and what was responded) to be tracked and appropriately addressed, rendering the stakeholder engagement process transparent.

Stakeholder engagement activities should include discussion with PAPs of unplanned events (spills, etc.) and Community Health and Safety Plans. For instance, Spill Control Plans should be discussed with fishermen.

3.3.7.3 Project description

In this section of the EIA, the Proponent should describe its overall approach to undertake the project. This includes the key project components including any related and associated facilities (as defined in IFC PS1, paragraph 8 (IFC 2012)) and activities. A full description of the project components (vessels, streamers, air guns, harbour facilities, etc.), project activities and technical and organisational aspects should be provided as well as timing and spatial information for the proposed survey activities by updating the information in the Scoping Report.

The description should include the mobilization and implementation phase of the project, as applicable, as well as the demobilization.

In addition, normal operating conditions and potential upset conditions are to be described. Upset conditions are project-specific and have to be properly defined. They

usually include measures such as start-up and shut-down operations, leaks, malfunctions, momentary stoppages, etc.

The description of the project constitutes a key element of the EIA and is the basis for identifying impacts and mitigation measures. Furthermore, the project description sets the baseline for identifying potential changes and modifications of the project and is important as a basis for inspections.

The project description must be complete, consistent, plausible and accurate and should be supported by maps, charts and plans as applicable.

In addition to the survey components and activities themselves, related activities including the following are likely relevant for consideration in the project descriptions:

- Vessel transit routes
- Onshore support facilities such as supply base (if any) and waste management facilities

An estimation of all discharges and emissions and a waste inventory from the proposed activities should be provided.

3.3.7.4 Description of the environment

In this section of the EIA, the Proponent should provide a thorough description of the existing physical, chemical, biological and socio-economic environment tailored to the specific project context and the associated definition of the area of influence for each scoped-in receptor (or VECs).

Should the baseline data collection process identify additional receptors of relevance, these should also be described clearly indicating that these had not been considered during scoping.

All relevant receptors likely to be impacted by the project should be clearly identified and a description should be provided considering the area of influence for the receptor (see below for more details). All in all, a description of the receptors pre-project baseline conditions should be provided, which will serve as the basis for the impact assessment.

Definition of area of influence

To identify, assess and manage potential environmental and social impacts, the potential area of influence (AOI) of the proposed project has to be defined by the Proponent.

IFC Performance Standard (PS) 1, paragraph 8 (IFC 2012), defines the area of influence as encompassing the following components as appropriate:

- "The area likely to be affected by
  - (i) the project and the client's activities and facilities that are directly owned, operated or managed (including by contractors) and that are a component of the project;
  - (ii) impacts from unplanned but predictable developments caused by the project that may occur later or at a different location, or
  - (iii) indirect project impacts on biodiversity or on ecosystem services upon which affected communities' livelihoods are dependent.
- Associated facilities, which are facilities that are not funded as part of the project, would not have been constructed or expanded if the project did not exist and without which the project would not be viable

- Cumulative impacts that result from the incremental impact, on areas or resources used or directly affected by the project, from other existing, planned or reasonably defined developments at the time the risks and impacts identification process is conducted."

Based on the above, the Proponent should define:

- Any permanent or temporary footprint related to the project incl. supply bases, potential access roads or transit routes, waste management facilities, etc.
- The area outside the footprint potentially affected by direct impacts such as noise
- The area potentially affected by indirect impacts such as coastal villages and towns affected by e.g. in-migration of contractor workers or job seekers
- The area potentially affected by unplanned events, such as diesel spills from vessels during mobilisation and project implementation
- The study areas defined for the receptors (or VECs)

The study area for each receptor takes account of the AOI but may be larger to understand the context in which the receptor exists, including any trends and pressures on the condition of the receptor. Examples of a study area larger than AOI are regional study areas for greenhouse gas emissions, economy and biodiversity (e.g. marine mammal habitat).

The AOI is different for each phase of a project, i.e. mobilization, project implementation and demobilization. The AOI may also be different for different receptors.

Definition of the spatial extent of the AOI for each receptor should be based on several considerations including:

- The project aspect generating the impact (e.g. vessel traffic, anchoring and local labour employment)
- Distance from the source of impact in which the receptor is affected (e.g. distance from the streamers where sound levels would exceed certain impact thresholds, or anchoring sites)
- The spatial extent of the affected receptor (e.g. range of the affected species)
- The sensitivity of the receptor affected (e.g. marine mammals compared to a touristic site)
- International good practice

The AOI should be defined using a precautionary approach, where there is uncertainty with any assumptions clearly stated.

The spatial and temporal boundaries of the AOI should be refined progressively based on:

- The project design, as it develops
- The development of a preliminary list of receptors and a list of priority receptors based on the results of stakeholder consultation, desk-based assessment and surveys
- The residual impact analysis following application of the mitigation measures, formulated during the EIA process

The defined area of influence as per the methodology detailed above should be presented within the Scoping Report under the section on 'study area' as per Annex 7 of the EIA Decree and updated as appropriate in the EIA.

Baseline data collection

Baseline data can derive from a number of sources, incl. publications, data obtained from state agencies or research organizations, field surveys and other data collection means (e.g. analysis of aerial photography and interviews). It is a requirement to undertake a dedicated offshore survey for primary environmental data collection as per the principles outlined in Appendix C. The gap analysis undertaken forms the basis for the development of the scope of work for any environmental or social survey necessary to provide relevant primary data for the EIA. Such data should be supplemented with secondary data as applicable to enable a complete description of the relevant environmental and social baseline conditions.

The Proponent should provide a full description of its approach to baseline data collection, both for primary as well as secondary data. Consideration should be given to relevant potential receptors such as environmentally sensitive and protected areas, coral reef habitats, sensitive fish spawning areas and periods, turtles, mammals, fisheries, marine traffic and other marine activities as well as coastal communities.

Efforts on baseline data collection should focus on:

- Gathering relevant information to understand and describe the importance and sensitivity of the receptors affected, in particular the key important and sensitive environmental and social receptors identified during scoping (rather than gathering data for its own sake) or subsequently
- Providing information on the key indicators and locations to be used for monitoring during and after project implementation

The design of an offshore environmental survey should follow the principles of Appendix C.

Where issues are affecting the quality and/or reliability of the data gathered or surveys undertaken, any limitations or uncertainties in the data gathered should be described in the EIA along with an assessment of how this has affected the identification and description of important and/or sensitive receptors and/or predictions of impacts.

Any survey effort should be adjusted as needed to achieve these aims and will also depend on the availability of secondary baseline data with adequate quality.

The interactions between different parts of the baseline environment should be identified, so that the secondary and indirect impacts of the project can be assessed. For example, coral reefs often provide nursery habitats for fish and other species and protect coastlines against erosion, so degradation can have a variety of impacts on other receptors.

Data collection methodologies, protocols and quality control procedures should be described and in line with Appendix C.

During baseline data collection, the Proponent should also:

- Gather stakeholder views on the issues and potential impacts under consideration in the EIA and ensure these are fed into the assessment process
- Consult stakeholders on the development of recommendations for the management and mitigation of identified impacts, particularly where individual stakeholders have a potential role to play in these management measures, e.g. the potential role of fishermen to carry oil (diesel) spill contingency equipment on their vessels

All baseline data acquired for the project should be provided in native files to LPA and MOE together with any georeferenced spatial information such as coordinates of sampling points, transects, etc. This also includes video footage, still pictures and any other data collected.

Proponents are required to provide their data in a format aligned with system requirements of LPA's databases, supported by Geographic Information Systems (GIS). Baseline data should be made available in a spatial format (ESRI geodatabase or similar) with information about sample areas/positions/transects such as georeferenced sampling points, survey stations and transects, and delineation of survey and project areas.

3.3.7.5 Potential environmental impacts

The Proponent should describe the methodology to assess potential project impacts which should be based on a transparent and logic approach, professional knowledge and the following key considerations:

- Impact type include positive or negative, direct or indirect, primary or secondary
- Impact parameters to be assessed should include:
  - Magnitude of impact, i.e. degree of change from baseline conditions
  - Extent, i.e. spatial extent of impact
  - Duration, i.e. temporal extent of impact
  - Sensitivity of receptor considering its vulnerability, value and resilience
- For each parameter a ranking value (e.g. from 1 - 5) shall be provided with associated definitions (see Fact box 3.4). The definitions for each ranking should be as quantitative/numerical as possible and tailored to the project specifics
- The assessment of the specific impact parameters should lead to an overall significance score using a defined formula (e.g. magnitude + extent + duration + receptor sensitivity = significance score)
- A threshold or criteria should be defined for the significance score to differentiate between significant and not significant impacts
- To increase the transparency of the impact assessment wording with clear definitions should be used as far as possible
- A clear differentiation should be provided to enable the reader to distinguish between pre- and post-mitigation impact ranking. As a minimum, post-mitigation impacts should be ranked and defined as residual impacts
- The assessment of impacts should be done for each project phase individually

Fact box 3.4
Example on impact duration ranking

Value	Definition
1	Transient, < 1 year
2	Short term: 1- 5 years
3	Medium term: 6 – 15 years
4	Long term: 16 – 25 years
5	Very long term: > 25 years

- Mitigation measures should be clearly linked with the impact assessment and taken into account to define residual impacts. These may include mitigation by design, management options or technical requirements

The description of impacts should cover the "potential environmental impact of the project: identification, estimation, and assessment of all potential impacts of the project on the environment whether positive or negative, direct or indirect, over the short or long term", as stated in the EIA Decree, Annex 7.

The assessment of potential impacts should be carried out by considering the environmental and social baseline conditions and the project components and activities (project description). It should be based on professional knowledge and expertise supported by evidence through scientific data or technical studies (e.g. modelling) as appropriate.

The impact assessment should cover all relevant receptors identified during scoping plus any additional receptors potentially identified at a later stage. Each relevant receptor (or VEC) should be ranked individually. Pre- and post-mitigation ranking should be provided for each project phase and hence all mitigation measures for the specific impacts should be clearly stated including providing a unique tracking ID for each measure (see also Section 3.3.7.6 for further details).

Normal operating conditions and accidental events should be considered separately. An evaluation of risk using credible and substantiated scenarios should be used to define accidental events and tailor associated mitigation measures which should be linked to emergency response and contingency planning.

Proponents should consider any applicable Strategic Environmental Assessment (SEA) as well as the EBI 'Good Practice in the Prevention and Mitigation of Primary and Secondary Biodiversity Impacts'[3] for potential mitigation measures of biodiversity impacts.

With respect to the specific impacts of offshore seismic surveys on marine mammals and sea turtles, Proponents should have regard to international good practice such as the JNCC guidelines[4]. Fact box 3.5 provides examples of measures to minimize impacts of seismic surveys.

Fact box 3.5

Examples on measures to minimize impacts of seismic surveys

- Identify and avoid protected and locally environmentally sensitive areas
- Identify and avoid spawning areas during spawning season
- Identify and avoid important areas and seasons for fishing
- Consult fisheries/fishermen during planning and implementation of the surveys to ensure acceptable co-existence
- Use local expertise to support operations (observers etc), where needed
- Avoid any interference with fishing equipment/nets, etc.
- Develop compensation scheme for losses due to damage to fishing gear or temporary restrictions on fishing

Cumulative impacts, if applicable, should also

[3] EBI (2005)

[4] JNCC (2017)

be addressed. Good practice requires that, at a minimum, an assessment should be made during the EIA to assess whether the project may contribute to cumulative impacts on receptors or VECs and/or may be at risk from cumulative effects on receptors/VECs they depend on. The objective is to understand the cumulative impacts on the receptors/VECs identified for the project when considered with:

- Past, recently developed, currently under development and reasonably defined or foreseeable third party projects,
- Developments or activities induced by the project, for example facilities built in anticipation of future business.

Guidance is provided in the IFC Good Practice Handbook on cumulative impact assessment and management (2013).

3.3.7.6 EMP

The EMP is an integral part of the EIA process. It ensures the management of impacts via the implementation of the mitigation measures proposed as well as the monitoring of residual impacts. It also allows assessing the effectiveness of mitigation throughout the installation and implementation phase of the project. The Proponent should consider any SEA applicable at the time with respect to mitigation, targets and indicators.

In addition to relevant commitments, the EMP should include and conform to:

- Good international industry practice (GIIP) / best available practices
- Requirements of the Proponents' internal policies and standards
- Lebanese national legislative requirements and guidelines including the EIA Decree.
- Mitigation measures and recommendations of the SEA for Petroleum Activities in Lebanese Waters as well as any other SEA as applicable.

The EIA Decree Annex 8 defines the requirements for the EMP as comprising:

1. Negative impact mitigation program
2. Monitoring and control program
3. Institutional capacity development program

As part of good practice, the Proponent should demonstrate how to:

- Achieve the predicted positive benefits predicted
- Mitigate the predicted adverse impacts
- Describe the company's requirements on contractor(s) to implement the commitments
- Provide the mechanisms for achieving compliance with legal requirements, the EIA and corporate EHS policies
- Provide a framework for the development of detailed implementation plans by the contractor(s)

Typically, and as required by the EIA Decree, an EMP is presented in the main body of the EIA. However due to size and practical reasons, the EMP should be a stand-alone volume, which should be used by the Proponent and the MOE/LPA for monitoring and supervision. The EMP should be part of, or linked to, the company's overall management system and in line with international standards for management systems such as ISO

14001. This will allow for adaptive management of mitigation measures following the plan-do-check-act improvement cycle.

Overall, the EMP should consist of two sets:

- An EMP framework to inform how the Proponent intends to manage the various work packages/contractors involved in the project and any own project activities. The framework should provide a description of the respective roles and responsibilities as well as the interface management, i.e. the relationship between the Proponent and contractors involved. It should also describe measures to ensure adequate contractor performance including inspections and audits
- EMP instructions (or contractor control plans) informing contractors of what is expected regarding their particular work package based on the mitigation measures of the EIA

It is expected that the EMP is part of the ToR for the relevant work packages and thus shared with bidders as this will ensure that EMP activities are adequately resourced by the chosen contractors.

Contractors are expected to prepare their own implementation plans to document how they will comply with the above.

The EMP should include the allocation of the EIA commitments in the topic-based management plans, the allocation of responsibilities for implementation between the company and its contractor(s) and the addition of further information on how the commitment should be implemented, as needed. The impact mitigation program should be established in form of a commitment register, where each commitment has a specific ID (number). The same ID should be referenced in the EIA Report and the EMP to ensure consistency and provide the possibility for tracking of commitments.

The commitment register should be provided in Excel format covering all relevant activities, associated impacts and proposed mitigation measures, monitoring parameters, frequencies and performance indicators. The objective of the commitment register is to provide a tool for ensuring all mitigation measures stated in the EIA Report are actually implemented, assignment of responsibilities is clear, and monitoring of the effectiveness of the proposed mitigation takes place in pre-defined frequencies. The commitment register is therefore an environmental management and monitoring tool which should be linked to an overall environmental management system. The register should contain the following columns as a minimum and should be sortable:

- Specific identification (ID) for each mitigation measure
- Project phase (e.g. installation and implementation)
- Spatial reference or location specific information (as relevant)
- Activity
- Receptor or VEC impacted by activity
- Mitigation measure (as proposed in the EIA Report)
- Responsible party (for implementation)
- Operation of a grievance procedure/mechanism
- Incident reporting and investigation

- Audits
- Performance monitoring

Reporting requirements to the relevant regulator should be clearly defined.

The EIA Decree requires the allocation of cost to mitigate negative impacts. It is recommended to establish cost against mitigation in form of matrices to be provided separately as this will facilitate publishing the EMP if applicable.

Environmental Monitoring Plan (EMoP)

The EIA Decree requires an EMoP for the proposed project to be developed as part of the EMP. Usually the EMoP is one of the management plans of the EMP.

The EMoP should define responsibilities and arrangements for:

- Compilation of a register of emissions and discharges
- Monitoring of types and amounts of emissions and discharges (monitoring parameters, equipment, location, frequency, standards, data protocols, etc.)
- Inspections of activities to check the effectiveness of the mitigation measures and implementation of the EMP
- Social monitoring (as part of the SMoP)
- Parameters to be monitored
- Compliance monitoring, inspections, etc. incl. reporting to the regulator.
- Preparation of an End of Activity Report summarising all relevant project information and findings (see below)
- Cost for monitoring program

It is recommended to provide the cost for the monitoring program separately in form of a matrix as this will facilitate publishing the EMoP, if applicable.

The Proponent should also identify and monitor against a set of key performance indicators that are set to achieve the key positive impacts or mitigation measures. These should be presented in tabular format with the target to be achieved and responsibility for implementation.

End of Activity Reporting

Requirements for an End of Activity Report (EAR) to MOE/LPA after the finalisation of the project activity described in the EIA Report include:

- Provision of link to the EMP and its requirements for monitoring and reporting incl. any LPA/MOE comments potentially received on the EMP
- Declaration regarding the fulfilment of the EMoP and other plans under the EMP. Provision of explanations and rationale for deviations or non-conformances with the EMP, if any, and any ongoing activities not yet finalised

- Timelines for milestones of operational activities (onshore and offshore) including an outlook on any activity potentially ongoing
- For impacts being different to the impact forecast of the EIA a comparison of the forecasts and the actual impact should be provided incl. a rationale and description of any implications
- Assurance of compliance with international conventions ratified/ signed by Lebanon, such as MARPOL and IMO
- Submission within 3 months after finalisation of offshore seismic data acquisition.

Fact box 3.6

Typical content of an End of Activity Report for seismic acquisition

- Comparison of actual performance versus forecast described in EIA Report
- Waste generation (by waste code)
- Consumption and discharge volumes offshore (in line with MARPOL) incl.
  - cooling water
  - drainage (incl. bilge and slop)
  - food waste
  - sanitary wastewater
  - other
- Waste volumes incl. storage and disposal onshore (logistics base)
- Spills/accidental discharges and incidences
- Air emissions (fuel consumption and associated emissions from vessel traffic)
- Marine fauna observations
  - marine mammals (sightings and vocalisations (PAM results)
  - reptiles
  - marine birds

Fact box 3.6 outlines the typical content of the End of Activity Report for seismic acquisition. The specific content will be agreed during the scoping phase of the EIA.

3.4 EIA

EIAs should be prepared to good international industry practice (GIIP) and should follow the scope of work approved as part of the Scoping Report. Selected references to sources of GIIP have been included in these Guidelines in Section 1.3.1.2.

Integration of environmental and socio-economic issues into project management, planning, design, mobilisation, project implementation and demobilisation should be demonstrated in the Proponent's health, safety, environment and social (HSES) management system. The results should be presented in the EIA, EMP and EMoP submitted to MOE for approval via submission to the LPA. The objective is to demonstrate that concrete actions have been taken to design out, by choice of locations/routes and technologies, and mitigate

Fact box 3.7

Summary of Annex 8 of the EIA Decree: Information required for the EIA Report

- Executive Summary
- Table of Contents
- Introduction
- Policy, legal and administrative framework
- Public participation
- Description of the proposed project
- Description of the surrounding environment
- Potential impacts of the project
- Analysis of project alternatives
- Environmental management plan
- Conclusion
- Annexes

potential negative impacts as far as possible and that unavoidable residual impacts are properly compensated and taken care of. This process should also focus on how to strengthen positive impacts on the society. Proponents should ensure that the requirements for EIA of all parts of the project are identified and understood.

EIA in this context refers to the requirements listed in Annex 8 of the EIA Decree which include an assessment of the physical, chemical, biological and socio-economic environment, i.e. the use of the term environment in a holistic manner.

Proponents should ensure that the EIA considers all relevant project phases. In case of a seismic survey these may include mobilization, project implementation and demobilisation.

The below Sections 3.4.1 - 3.4.7 provide the EIA structure in line with Annex 8 of the EIA Decree, summarized in Fact box 3.7). In addition, the EIA should adhere to the instructions provided in Fact box 3.8 regarding structuring the EIA Report.

Content requirements for the core individual sections are detailed in the scope of work contained in the Scoping Report (see Sections 3.3.7.1 - 3.3.7.6), with some additional considerations provided in the subsections below.

Fact box 3.8

Instructions for structuring the EIA Report

- A complete Table of Content (ToC) including respective page numbers should be provided
- The ToC should show all header levels used
- The ToC should be hyperlinked with the respective EIA chapters
- Page numbering should be continuous throughout the report (except for annexes)
- Each annex should have its own ToC and continuous page numbering

3.4.1 Policy, legal and administrative framework

See Section 3.3.7.1 and Appendix B.

3.4.2 Public participation

The overall Stakeholder Engagement Plan (SEP) developed during the scoping phase should be updated with a focus on stakeholder engagement activities for each of the EIA phases, i.e.:

- Baseline and impact assessment phases: which aims at discussing impacts with stakeholders
- EIA report-back phase: which aims at informing stakeholders about the outcome of the EIA and receiving their comments

Public consultation is an integral part of the EIA as per Annex 8 of the EIA Decree and it is good practice to consult on the draft EIA Report in order to present the consultation results in the EIA Report submitted to the MOE and use any concerns/issues raised to amend the report, and mitigation and management measures if needed. For this purpose, information on cost, such as for implementation of the EMP or EMoP should be provided separately to the MOE/LPA as confidential financial information should not be published.

Consultations on the draft EIA Report should focus on ensuring that participants understand the content of the EIA and generally accept the validity of the findings of the EIA process, the resulting impact assessment and the identification of mitigation and

management measures. As described in the SEP for the EIA phase, a mix of public meeting(s), workshops with key stakeholder groups and one-on-one meetings with key stakeholders should be used, as needed. In addition, the grievance mechanism should be clearly described to enable stakeholders to voice comments or grievances at any time via established channels for efficient grievance resolution as grievances may already come up during the EIA phase, e.g. complaints regarding incomplete information, unfair or discriminating treatment.

The overall process for EIA consultations should be as follows:

- The Proponent should arrange consultation meetings with stakeholders as defined and agreed upon in the SEP as early as possible. Sharing the SEP with the LPA/MOE should not be an obstacle to initiating stakeholder meetings. At least one general public meeting shall be held, to which all relevant stakeholders shall be invited.
- Once the draft EIA Report is sufficiently advanced, the Proponent should publish it on its company website or any other website agreed with MOE/LPA for at least two weeks and solicit comments from the general public and from public authorities (see also Figure 3.1).
- The Proponent should advertise the draft EIA Report, as appropriate to the project context, to inform the general public about the results of the impact assessment and receive stakeholder feedback. The advertisement will include information that the draft EIA has been posted online for stakeholder review and feedback, it will also provide information about how such feedback can be provided and will include the date and location of the planned general public meeting(s).
- The Proponent should send out invitation letters to the public consultation session to the relevant authorities specified in the SEP, including those who commented on the Scoping Report, and provide proof that these letters were registered by their destined invitees at least fifteen (15) days before the date of the general public meeting(s). The invitations should include a brief of the project and a referral to the draft EIA Report published on the company website.
- The LPA may issue a letter of information to relevant governmental entities to encourage their participation in the general public meeting planned by the Proponent.
- In accordance with the EIA Decree, feedback by the public can be submitted within a period of one month once the project is advertised. Feedback should be submitted to the Proponent who will provide an automatic transfer (real time) to the LPA and MOE. The means for submitting feedback to the Proponent (e.g. via the company website and in writing) will be defined on the respective website, in the Proponent invitation letters, and in the LPA information letters.
- General public meetings shall be announced at least fifteen (15) days before being held. In addition, the meetings shall be held at least ten (10) days before the receipt of the Scoping Report by the MOE.
- All stakeholder feedback received within the one-month consultation period will be considered in the updated EIA Report, before submission to LPA.

- The Proponent will submit the updated EIA Report for a first round of review by the LPA. It is also important to note the potential that:
    - The LPA might engage other Ministries in the review process such as the MOSA, MOC, etc.
    - The Proponent might need to update the EIA Report based on comments received from the LPA prior to submission to the MOE through the LPA.
- The final EIA Report will be published on the LPA website.

The EIA Report should include a description of the consultation process and a summary of the main findings and concerns raised by stakeholders during the scoping and EIA phase. Formal meetings should be minuted and should include a signed list of attendees. The MOE/LPA require minutes of meetings, with a signed attendance list, to be attached to the EIA. This should also include the information provided by the MOE and the LPA as part of the official consultation process. The consultant should also include a register highlighting which stakeholders' comments were addressed and how as well as a justification why others weren't addressed.

Disclosure shall respect provisions of Petroleum Activity Regulation Article 154 and EPA Article 35 regarding confidentiality of information and shall take into consideration Article 10 in Law 84/2018 (Transparency in the Petroleum Sector) and Article 14 in Law 444/2002.

The approved (final) EIA Report in English language, including a Non-Technical Summary in English and Arabic, should be made publicly available through the same channels as the draft report.

3.4.3 Description of the proposed project

The overall project including all project components, activities and its technical and organizational set-up should be described. Related facilities or activities as well as any associated developments should be described in line with the definition provided in IFC PS 1 (2012). See Section 3.3.7.3 for more details.

3.4.4 Description of the surrounding environment

This section describes the approach to define relevant receptors (or VECs) and their area of influence in line with Section 3.3.7.4.

Furthermore, all receptors (or VECs) identified during the scoping phase, or subsequently during stakeholder consultation or other means, should be described using all relevant available data sources and considering data gaps identified during scoping. This may include the following, depending on the outcome of the scoping:

- Physical environment, e.g. air, water, sediment and noise
- Chemical environment, e.g. air quality, sediment quality and water quality
- Biological environment, e.g. benthos, plankton, fish, marine mammals, marine turtles, avifauna, areas of conservation status, species with conservation status, threats and trends
- Socio-economic environment, e.g. fisheries, marine or coastal based livelihoods, employment, vulnerable groups, human rights and cultural heritage

The description of the environment should include a concise description of the baseline conditions that are relevant to the project, with references to studies, reports, field surveys, monitoring records, etc. Primary data should be supplemented with secondary data as applicable to enable a complete description of the relevant environmental and social baseline conditions.

All sources of information must be up to date and adequately referenced. As a rule, maps and figures should be of good quality and easy to read. The data quality must be assessed, and any uncertainties and gaps clearly identified.

Focus should be given to aspects likely to be significantly affected. The guiding principle is to provide such baseline as required to assess the sensitivity of a specific receptor with respect to the subsequent impact assessment and decision making. A proportionality between the baseline description and the impact assessment and monitoring should thus be achieved.

3.4.5 Potential impacts of the project

In line with the EIA Decree, all potential environmental impacts of the project as well as cumulative and transboundary impacts, if applicable, should be considered and assessed.

The assessment of impacts should be based on the impact assessment methodology described in Section 3.3.7.5. It should cover all relevant receptors identified during scoping plus any additional receptors potentially identified at a later stage, such as during the EIA baseline data collection phase. Each relevant receptor or VEC should be ranked individually. As a minimum, post-mitigation ranking should be provided for each project phase and all mitigation measures should be clearly stated including using a unique ID for each mitigation measure. Impacts from planned activities should be considered separately from unplanned events.

3.4.6 Analysis of project alternatives

Alternative options should be identified and assessed in line with Section 3.3.6.1. The analysis of the alternatives in the EIA should build upon the assessment included in the Scoping Report. All project alternatives considered should be clearly described. In line with EIA Decree Annex 8, point 9 these shall include feasible technical options, alternative projects with the same objectives, comparing various environmental and economic potentials and the zero alternative. A rationale should be provided why the preferred option(s) have been chosen against other alternatives. The chosen alternative should represent GIIP, as defined in the IFC EHS guidelines for onshore and offshore oil and gas developments[5]. Reasoned justification, if the chosen option is not the GIIP, should be given. Positive as well as adverse impacts should be considered.

3.4.7 EMP

The EMP is an integral part of the EIA that should be developed in line with the requirements stated in Section 3.3.7.6.

[5] IFC (2007) and IFC (2015)

4 GUIDANCE FOR EXPLORATION DRILLING ACTIVITIES

This section provides guidance on environmental assessment documentation required for approvals to undertake exploration drilling activities. Section 2.2 describes the screening process. In general, the submission of a screening application by the Proponent and the associated screening process at the MOE will decide whether an environmental assessment submission is required. However, as exploration drilling falls under Annex 1 of the EIA Decree, an EIA will be required for exploration drilling (see also Section 2.3.2). The screening application therefore serves to initiate the EIA process with the MOE.

The following sections describe the report requirements for each type of submission.

4.1 Screening application

The EIA process is officially initiated by the Proponent via the submission of a screening application as presented in Annex 4 (EIA Classification Model) of the EIA Decree and relevant supporting documentation. In addition to the items required in Annex 4, the Proponent should provide documentation to enable the MOE to classify the project in accordance with the EIA Decree. Relevant documentation, i.e. a concise project brief, needs to be appropriate for a screening stage, tailored to the project specifics and should include:

- Preliminary definition of the tentative area of influence based on secondary data, not just the physical area of the project, as this is needed to identify the preliminary known range of impacts of planned as well as unplanned events considering also transboundary impacts
- Identification of the already known key alternatives – justifying their choice where key decisions have already been made. For exploration drilling alternatives this may include various types of suitable drilling rigs, timing to avoid ecologically sensitive periods, location of wells, use of various supply bases, etc. as far as known at this stage
- Inclusion of a brief review of the baseline environmental and socio-economic conditions based on secondary data identifying key potentially important and/or sensitive receptors/VECs that may affect the screening of the project
- Identification whether the project may affect any of the environmentally sensitive areas in line with Annex 3 of the EIA Decree, while considering the list/definition of such areas defined in other regulations, e.g. the Lebanon Marine Protected Areas Strategy (MOE/ IUCN, 2012), the RAMSAR Convention on Wetlands, Convention on Biological Diversity (CBD) (ratified in Lebanon via Law no 360/1994); Barcelona Convention for Protection against Pollution in the Mediterranean Sea, specifically the 1982 protocol concerning Specially Protected Areas (ratified via Law No. 292/1994) and the Conservation of Cetaceans in the Black Sea, Mediterranean Sea and contiguous Atlantic (ACCOBAMS, Grant to join via Law No. 571/2004)
- Identification of other existing or planned projects known at this stage with a potential to create significant cumulative impacts

Proponents should make specific reference in the project brief to whether the main project requires any related facilities or associated developments (as defined in IFC PS1,

paragraph 8 (IFC 2012)), whether these would require expansion of existing facilities or eventually construction of new facilities. They should also briefly but explicitly identify and assess the likely impacts of any related or associated developments in the project brief and make a clear proposal for whether or not the related or associated development should be considered in the screening decision.

According to the EIA Decree, Proponents should not divide projects into smaller units specifically to avoid the need to undertake an EIA as each of the smaller units may have less significant impacts due to a more limited technical scope, spatial and temporal extent.

4.2 Scoping Report

If the screening phase results in the requirement to undertake an EIA, scoping is the first step in the EIA process. The Proponent shall prepare a Scoping Report according to the EIA Decree, Article 7. Annex 7 of the EIA Decree provides an outline of the information required, see also Fact box 4.1.

In addition, the Proponent should consider chapters to describe:

- The policy, legal and administrative framework
- Public participation
- The project description as far as known
- The baseline conditions as far as known
- The preliminary impact identification.

Fact box 4.1

Annex 7 of the EIA Decree:

Information required for the Scoping Report

1. Introduction
2. Background information
3. Objectives
4. EIA requirements
5. Study area
6. Scope of work (for EIA)

The area of influence should be refined, based on the initial assessment included in the project brief. It is also important to identify all affected stakeholders at this stage and to consider any related facilities and associated developments as well as potential unplanned events.

Proponents should undertake a gap analysis of available information against the information needed to identify, describe and assess important and/or sensitive receptors and potentially significant impacts. The likely accuracy and robustness of secondary baseline data should also be assessed. The results of the gap analysis and review of secondary data should be explicitly linked to the recommendations for the scope and breadth of baseline studies and investigations required in the Scope of Work (see Section 4.2.7.44.2.7.5). In cases where baseline surveys, relevant to an EIA or licensed Block, are initiated by the Proponent before the EIA, the scope of work of the baseline survey should follow the requirements described in these Guidelines. Proponents should explore all potential impacts and shall identify potentially significant impacts (positive and negative, planned and unplanned) and screen out minor ones. An explicit justification should be provided for scoping out, especially when topics understood as "standard" are omitted due to their limited importance in the context.

Cumulative and transboundary impacts should also be scoped, as appropriate.

The proposed impact assessment methodology, to determine impact significance in the EIA, should be described. The assessment methodology should be in accordance with Section 4.2.7.5.

4.2.1 Introductory chapters

As outlined in Annex 7 of the EIA Decree, the Scoping Report should begin with general chapters, including the introduction, background, objectives and EIA requirements. These chapters need to be considered by the Proponent as part of the required scope for the EIA.

A section on the study area should follow. This section should define the area of influence of the project activity, as determined by the principles described in Section 4.2.7.44.2.7.5.

4.2.2 Policy, legal and administrative framework

In this section, the Proponent should describe all local, national (e.g. legal requirements, decrees and decisions) as well as international conventions (e.g. the Barcelona Convention and the Basel Convention), treaties and other legal and administrative frameworks relevant for Lebanon. Their relevance to the project should also be described as far as known during the scoping stage.

4.2.3 Public participation

Stakeholder engagement is an integral part of the EIA process that starts during scoping and continues throughout the EIA process and the project implementation and beyond.

Consultations during the scoping phase are aimed at informing the stakeholders about the project, receiving their issues and concerns, identifying their potential for being involved in the EIA and receiving their input into the scope of work for the EIA.

The Proponent should develop and implement a Stakeholder Engagement Plan (SEP) for the scoping phase. The Proponent should identify the stakeholders to be consulted in close coordination with the MOE and LPA in the early scoping stage and share the SEP with LPA and MOE for alignment on stakeholders and planned stakeholder meetings. Annex 5 of the EIA Decree provides an overview of potential stakeholders, which needs to be tailored to the project specifics and the project's area of influence. Appendix A of these Guidelines provides an example list of stakeholders potentially relevant. The SEP for this and subsequent stages of consultation should be shared at the outset with the LPA and MOE for alignment.

A stakeholder analysis should be undertaken considering:

- Identification of different types of stakeholders such as relevant ministries, local authorities (including governorates and municipalities), businesses, academic institutions, NGOs, project affected communities (PACs) and project-affected parties (PAPs), such as professional associations and syndicates of divers and fishermen, tourism operators and women.
- Analysis of PAP-specific impacts from the project and potential PAP influences over the project. This will enable the identification of vulnerable people (such as artisanal fishermen) who may be more severely impacted by project activities and less prepared to deal with impacts, as well as PAPs who may have an important role to play in the project and should be prioritised during the stakeholder engagement.

The SEP should outline activities specific for each group of stakeholders in terms of type of engagement (public meeting, workshop, bilateral meetings, focus groups, etc.), types of materials required (PowerPoint presentations, brochures, non-technical summaries of the EIA Report, etc.) the language used (English and/or Arabic), and type of information

to be conveyed. It should include information such as the list of stakeholders, roles as for example who is coordinating and leading public meetings, and formal grievance mechanisms enabling stakeholders to voice concerns and get them addressed in a timely and effective manner. It should also include data recording and management strategy (systems to log all consultations undertaken and systems for documenting and sharing minutes from meetings), budget, timeline and organisational logistics. The SEP should also define the means of dissemination of the draft report for consultation (electronic and/or paper copies, etc.) and advertising (newspaper, broadcasting, etc.).

The overall process for scoping consultations should be as follows:

- The Proponent should arrange consultation meetings with stakeholders as defined and agreed upon in the SEP as early as possible. Sharing the SEP with LPA/MOE for alignment should not be an obstacle to initiate consultations. At least one general public meeting shall be held, to which all relevant stakeholders shall be invited.
- The Proponent shall send out invitation letters for the public consultation session to the relevant authorities as specified in the SEP and provide proof that these letters were registered by their destined invitees at least fifteen (15) days before the date of the general public meeting(s). The invitations should include: a) a brief of the project, b) information that an EIA is required for the project and that feedback is sought from the public, c) reference to the draft Scoping Report published on the company website or any other website agreed with MOE/LPA providing also information about how such feedback can be provided and d) the date and location of the planned general public meeting(s).
- General public meetings shall be announced at least fifteen (15) days before being held. In addition, the meetings should be held at least ten (10) days before the receipt of the Scoping Report by the MOE.
- Once the draft Scoping Report is sufficiently advanced, the Proponent should publish it on its company website or any other website as agreed with MOE/LPA, for at least two weeks to solicit comments from the general public and from public authorities (see also Figure 4.1).
- The Proponent should advertise the draft Scoping Report for consultation, as appropriate to the project context, to inform the general public about the initiated EIA process as early as possible.
- The LPA may issue a letter of information to relevant governmental entities to encourage their involvement in the EIA process and their participation in the general public meeting planned by the Proponent.
- In accordance with the EIA Decree, feedback by the public can be submitted within a period of one month once the project is advertised. Feedback should be submitted to the Proponent who will provide an automatic transfer (real time) to the LPA and MOE. The means for submitting feedback to the Proponent (e.g. via the company website and in writing) will be defined on the website, in the Proponent invitation letters, and in the LPA information letters.
- All stakeholder feedback received within the one-month consultation period will be considered in the updated Scoping Report, before submission to LPA. Any

feedback received beyond this period, based on its type and content, will be considered for incorporation in the EIA Report.

- The Proponent will submit the updated Scoping Report for a first round of review by the LPA prior to submission to the MOE through the LPA. It is also important to note the potential that:
    - The LPA might engage other Ministries in the review process as appropriate
    - The Proponent might need to update the Scoping Report based on comments received from the LPA prior to submission to the MOE through the LPA.
- The approved (final) Scoping Report will be published on the LPA website.

The Scoping Report should include a summary of the main concerns raised by stakeholders. The MOE/LPA requires minutes of meetings, with a signed attendance list, to be attached to the Scoping Report. The consultant should also include a register highlighting which stakeholders' comments were addressed and how these were addressed as well as a justification on why others weren't addressed.

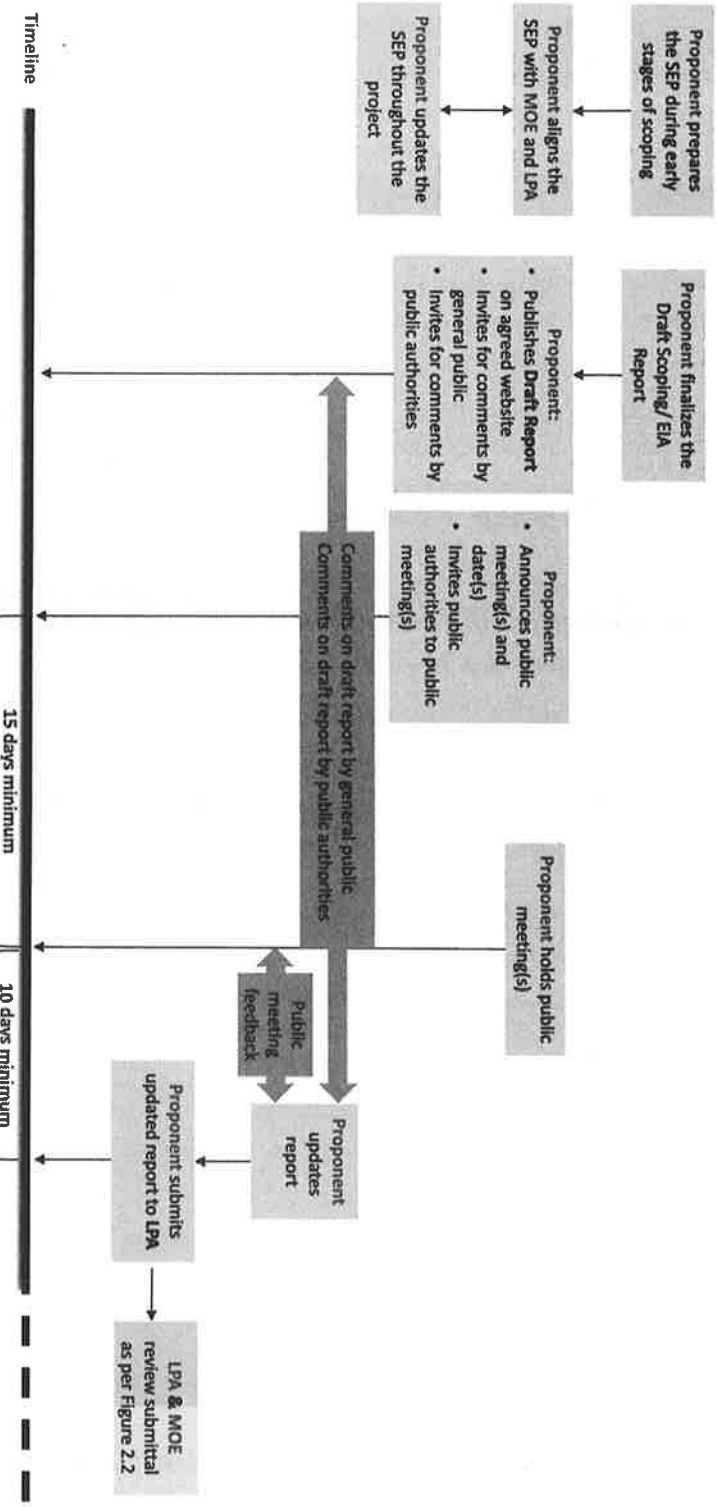

Figure 4.1 Process for SEP alignment and receiving stakeholder feedback for the draft Scoping/EIA Report

4.2.4 Project description and project alternatives identified

In accordance with the EIA Decree, the Proponent should describe all project components. This includes any related and associated facilities (as defined in IFC PS1, paragraph 8 (IFC 2012)) and activities as far as known during the scoping stage. Issues not yet decided should be clearly identified.

The description should include the mobilization/installation and implementation phase of the project, as applicable, as well as the demobilization.

Alternative options should be identified and assessed at the early stages of the project planning, which clearly represents the most effective strategy for impact avoidance and mitigation. Therefore, the Proponent should present the most significant alternatives already examined during the scoping stage including the "no-project" alternative and project development aspects such as fundamental approaches, locations and routes, layout, choice of technology, designs, operational measures and schedules/timelines as far as feasible. Further "optioneering" should be described and analysed later, during the preparation of the EIA, based on thorough integration between the technical planning/design and the EIA activities.

4.2.5 Baseline description

As part of the Scoping Report, the Proponent should provide a description of the baseline environment including consideration of environmental, socio-economic and health aspects as relevant to the specific project. The description should be based on secondary data considering its quality, relevance and any assumptions regarding its applicability with respect to the project location; or primary data if available. Receptors should be identified and assessed whether to be scoped in or out and a full record of receptors (or VECs) to be considered in the EIA should be provided. Any receptors considered irrelevant for the impact assessment should be identified but scoped out providing a clear rationale why.

A gap analysis should be undertaken to identify relevant data sources as well as data gaps. The gap analysis should form the basis for the development of the scope of work for any environmental or social survey necessary to provide relevant primary data for the EIA.

In cases were baseline surveys, relevant to an EIA or licensed Block, are initiated by the Proponent before the EIA, the scope of work of the baseline survey should follow the requirements described in these Guidelines. In this case the Scoping Report should reflect the baseline survey results in addition to any secondary data if feasible.

4.2.6 Preliminary impact identification

The Proponent should provide a preliminary impact identification based on current knowledge regarding the project description and the baseline environment including the identified receptors/VECs.

4.2.6.1 Analyses of project alternatives

The analysis of the alternatives in the EIA should build upon the assessment of alternatives included in the Scoping Report. All project alternatives considered should be

clearly described. In line with EIA Decree Annex 8, Bullet 9, these shall encompass feasible technical options, alternative projects with the same objectives, comparing various environmental and economic potentials and the zero alternative. In addition, alternatives should consider timing, location and management options.

Project alternatives related to exploration drilling projects may, for example, include the choice of drilling rig and whether anchored or dynamically positioned, the choice of chemicals and drilling mud systems, options related to waste management and discharge, methods for minimising well testing and flaring and venting and the timing of drilling to avoid environmentally sensitive periods providing the options considered comply with Lebanese legislation and policies.

Proponents need to systematically identify and assess project-specific alternatives in each case. The examples above are therefore meant to illustrate typical alternatives and do not necessarily represent relevant alternatives for projects in Lebanon.

The zero alternative shall also be evaluated. A rationale should be provided why the preferred option(s) have been chosen against other alternatives. The chosen alternative should represent GIIP, as defined in the IFC EHS guidelines for onshore and offshore oil and gas developments[6]. A reasoned justification should be given if the chosen option is not the GIIP. Positive as well as adverse impacts should be considered.

The EIA Decree Annex 7 foresees for the Scoping Report the "Analysis of project alternatives: preliminary description of alternatives studied during the preparation of the proposed project and listing other alternatives that can achieve the same objectives. The concept of these alternatives generally includes the selection of project site, its design and technology, construction methods and the stages, and the operation and maintenance procedures. A preliminary conclusion should be made among these alternatives in terms of potential environmental effects, their costs relative to the capital and operation, adequacy of local conditions, institutional requirements, training needs and monitoring and control requirements. It should, as much as possible, identify the preliminary cost and profits of all alternatives, as well as the estimated cost of mitigation measure. The alternative regarding the no implementation of the project should also be included to clarify environmental conditions "as is" without the project."

The assessment of alternatives should be based on the preliminary information provided during scoping. Further "optioneering" should be described and analysed during the preparation of the EIA based on thorough integration between the technical planning/design and the EIA activities.

The study of the alternatives should focus on the following:

- Compliance with Lebanese policies, laws and regulations, and relevant internationally accepted standards
- Compilation and understanding of baseline conditions
- Optimum solutions taking into consideration environmental and socio-economic sensitivities
- Potential risks related to all relevant environmental and socio-economic aspects
- Acceptable available technologies/designs, mobilisation, installation and plugging and abandonment practices and approaches

[6] IFC (2007) and IFC (2015)

- Mitigation based on the mitigation hierarchy: impact avoidance, impact minimisation/mitigation and impact compensation, and enhancement of positive impacts
- Cost effectiveness including associated environmental and socio-economic costs and benefits of each alternative

4.2.7 Scope of work for the EIA

In this section the Proponent should describe the proposed scope of work for the EIA to be undertaken once the Scoping Report is approved.

Annex 7 of the EIA Decree provides a high-level description of the required content of the scope of work (see also Fact box 4.2). The sections below (Sections 4.2.7.1 to 4.2.7.6) provide guidance on the approach to conducting the EIA of an oil and gas exploration drilling project.

All topics should be clearly identified and described in the detail necessary to allow judgement whether the scope is appropriate.

Fact box 4.2

Point 6 of Annex 7 of the EIA Decree: Information required for the EIA scope of work

1. Policy, legal and administrative framework
2. Public participation
3. Description of the proposed project
4. Description of the surrounding environment
5. Potential impacts of the project
6. Analysis of project alternatives
7. Environmental management plan
8. EIA report structure

4.2.7.1 Policy, legal and administrative framework

In this section, the Proponent should describe the approach to present all applicable local, national (e.g. legal requirements, decrees and decisions), as well as international conventions (e.g. the Barcelona Convention and the Basel Convention), treaties and other legal and administrative frameworks relevant for Lebanon and the project. The Proponent should update the information provided in the Scoping Report to ensure all relevant requirements are adequately described and their relevance to the EIA highlighted.

A non-exhaustive list of potentially applicable legal requirements and international conventions is provided in Appendix B.

4.2.7.2 Public participation

In this section, the Proponent should describe its approach to public participation during the EIA. Stakeholder consultation is an integral part of the EIA, hence the scoping phase SEP should be updated and tailored to the key EIA phases, considering lessons learnt during the scoping phase and following the general SEP guidelines outlined in Section 4.2.3:

- Baseline and impact assessment phases: which aim at discussing impacts with stakeholders
- EIA report-back phase: which aims at informing stakeholders about the outcome of the EIA and receiving their comments

The stakeholder analysis started during scoping should be elaborated further and include:

- Identification of different types of stakeholders such as relevant ministries, local authorities (including governorates and municipalities), businesses, academic institutions, NGOs, project affected communities (PACs) and project-affected parties (PAPs), such as professional associations and syndicates of divers and fishermen, tourism operators and women
- Analysis of PAP-specific impacts from the project and potential PAP influences over the project. This will enable the identification of vulnerable people (such as artisanal fishermen) who may be more severely impacted by project activities and less equipped to deal with impacts, as well as PAPs who may have an important role to play in the project and should be prioritised in the stakeholder engagement

Overall, EIA stakeholder engagement should serve to:

- Ensure that stakeholder issues are addressed in the EIA
- Assess stakeholders' expectations to enable the Proponent to develop an expectation management strategy (i.e. exploration drilling activities do not have large potential for employment or local business involvement). Clear explanation of the proposed activities, spatial extent and timelines are important to manage expectations
- Assess stakeholders' capacity to be involved in the project in terms of labour and supply capacity. This information will provide vital information for assessing positive socio-economic impacts and should be incorporated into the impact assessment and Social Management Plan

The stakeholder engagement process should include a culturally appropriate grievance mechanism that enables stakeholders to voice comments and grievances, which should be addressed in a timely fashion throughout the EIA process.

The records of stakeholder engagement activities (minutes signed attendance sheets, photos of meetings and grievances) should be captured in a database/log, which will allow issues (what was said by stakeholder) and responses (who and what was responded) to be tracked and appropriately addressed, rendering the stakeholder engagement process transparent.

Stakeholder engagement activities should include discussion with PAPs of unplanned events (spills, etc.) and Community Health and Safety Plans. For instance, Spill Control Plans should be discussed with fishermen.

During the EIA, mechanisms should be set up for post EIA stakeholder engagement (e.g. fisheries liaison committee) and Proponents are encouraged to develop local community participation during project implementation.

4.2.7.3 Project description

In this section of the EIA Report, the Proponent should describe its overall approach to undertake the project. This includes the key project components including any related and associated facilities (as defined in IFC PS1, paragraph 8 (IFC 2012)) and activities. A full description of the project components (drilling rig incl. whether anchored or dynamically positioned, mud systems, support vessels, harbour facilities, etc.), project activities and technical and organisational aspects should be provided as well as timing and spatial information for the proposed drilling and support activities by updating the information in the Scoping Report.

The project description should include the mobilization, installation, and implementation phase of the project as well as the demobilization.

In addition, normal operating conditions and potential upset conditions are to be described. Upset conditions are project-specific and have to be properly defined. They usually include measures such as start-up and shut-down operations, leaks, malfunctions, momentary stoppages, etc.

The description of the project constitutes a key element of the EIA and is the basis for identifying impacts and mitigation measures. Furthermore, the project description sets the baseline for identifying potential changes and modifications of the project and is important as a basis for inspections.

The project description must be complete, consistent, plausible and accurate and should be supported by maps, charts and plans as applicable.

In addition to the exploration drilling (and appraisal) components and activities themselves, related activities including the following are likely relevant for consideration in the project descriptions:

- Vessel and helicopter transit routes
- Marine operations such as loading
- Onshore support facilities such as supply bases or waste management facilities
- Surveys related to positioning of the drilling rig as applicable, e.g. geohazard survey.

An estimation of all discharges and emissions and a waste inventory from the proposed activities should be provided.

4.2.7.4 Description of the environment

In this section of the EIA Report, the Proponent should provide a thorough description of the existing physical, chemical, biological and socio-economic environment tailored to the specific project context and the associated definition of the area of influence for each scoped in receptor (or VEC).

Should the baseline data collection process identify additional receptors of relevance, these should also be described clearly indicating that these had not been considered during scoping.

All relevant receptors likely to be impacted by the project should be clearly identified and a description should be provided considering the area of influence for the receptor (see below for more details). All in all, a description of the receptors pre-project baseline conditions should be provided, which will serve as the basis for the impact assessment.

Definition of area of influence

To identify, assess and manage potential environmental and social impacts, the potential area of influence (AOI) of the proposed project has to be defined by the Proponent.

IFC Performance Standard (PS) 1, paragraph 8 (IFC 2012), defines the area of influence as encompassing the following components as appropriate:

- "The area likely to be affected by
  (i) the project and the client's activities and facilities that are directly owned, operated or managed (including by contractors) and that are a component of the project;

(ii) impacts from unplanned but predictable developments caused by the project that may occur later or at a different location, or

(iii) indirect project impacts on biodiversity or on ecosystem services upon which affected communities' livelihoods are dependent.

- Associated facilities, which are facilities that are not funded as part of the project, would not have been constructed or expanded if the project did not exist and without which the project would not be viable
- Cumulative impacts that result from the incremental impact, on areas or resources used or directly affected by the project, from other existing, planned or reasonably defined developments at the time the risks and impacts identification process is conducted."

Based on the above, the Proponent should define:

- Any permanent or temporary footprint related to the project incl. supply bases, potential access roads or transit routes, waste management facilities, etc.
- The area outside the footprint potentially affected by direct impacts such as noise and air emissions
- The area potentially affected by indirect impacts such as coastal villages and towns affected by e.g. in-migration of contractor workers or job seekers
- The area potentially affected by unplanned events, such as a blowout during drilling or a vessel collision
- The study areas defined for the receptors (or VECs)

The study area for each receptor takes account of the AOI but may be larger to understand the context in which the receptor exists, including any trends and pressures on the condition of the receptor. Examples of a study area larger than AOI are regional study areas for greenhouse gas emissions, economy and biodiversity (e.g. marine mammal habitat).

The AOI is different for each phase of a project, i.e. mobilization, installation, operation, well abandonment and demobilization. The AOI may also be different for different receptors.

Definition of the spatial extent of the AOI for each receptor should be based on several considerations including:

- The project aspect generating the impact (e.g. drilling and associated discharges, vessel traffic, anchoring of the rig and local labour employment)
- Distance from the source of impact in which the receptor is affected (e.g. distance from the cuttings discharge point where parameters for water quality would exceed certain impact thresholds, or the extent of a cuttings pile on the sea floor)
- The spatial extent of the affected receptor (e.g. range of the affected species)
- The sensitivity of the receptor affected (e.g. corals or marine cultural heritage compared to touristic activities)
- International good practice

The AOIs should be defined using a precautionary approach, where there is uncertainty with any assumptions clearly stated.

The spatial and temporal boundaries of the AOI should be refined progressively based on:

- The project design, as it develops

- The development of a preliminary list of receptors and a list of priority receptors based on the results of stakeholder consultation, desk-based assessment and surveys
- The residual impact analysis following application of the mitigation measures, formulated during the EIA process.

The defined area of influence as per the methodology detailed above should be presented within the Scoping Report under the section on 'study area' as per Annex 7 of the EIA Decree and updated as appropriate in the EIA Report.

Baseline data collection

Baseline data can derive from a number of sources, including publications, data obtained from state agencies or research organizations, field surveys with associated sample analysis and other data collection means (e.g. analysis of aerial photography and interviews). It is a requirement to undertake a dedicated offshore survey for primary environmental data collection. The gap analysis undertaken forms the basis for the development of the scope of work for any environmental or social survey necessary to provide relevant primary data for the EIA. Such data should be supplemented with secondary data as applicable to enable a complete description of the environmental and social baseline conditions.

It should be noted that the LPA/MOE may require a post-operational survey to verify predicted impacts and site conditions in alignment with the previous baseline survey parameters, particularly in the cases of major accidents to the environment.

The design of an offshore environmental survey should follow the principles of Appendix C.

The Proponent should provide a full description of its approach to baseline data collection, both for primary as well as for secondary data. Consideration should be given to relevant potential receptors such as environmentally sensitive and protected areas, coral reef habitats, sensitive fish spawning areas and periods, turtles, mammals, fisheries, marine traffic and other marine activities as well as coastal communities.

Efforts on baseline data collection should focus on:

- Gathering relevant information to understand and describe the importance and sensitivity of the receptors affected, in particular the key important and sensitive environmental and social receptors identified during scoping (rather than gathering data for its own sake) or subsequently
- Providing information on the key indicators and locations to be used for monitoring during and after project implementation.

Where issues are affecting the quality and/or reliability of the data gathered or surveys undertaken, any limitations or uncertainties in the data gathered should be described in the EIA along with an assessment of how this has affected the reliability of identification and description of important and/or sensitive receptors and/or predictions of impacts.

Any survey effort should be adjusted as needed to achieve these aims and will also depend on the availability of secondary baseline data with adequate quality.

The interactions between different parts of the baseline environment should be identified, so that the secondary and indirect impacts of the project can be identified and assessed. For example, coral reefs often provide nursery habitats for fish and other species and

protect coastlines against erosion, so degradation can have a variety of impacts on other receptors.

Data collection methodologies, protocols and quality control procedures should be described and in line with Appendix C.

During baseline data collection, the Proponent should also:

- Gather stakeholder views on the issues and potential impacts under consideration in the EIA and ensure these are fed into the assessment process
- Consult stakeholders on the development of recommendations for the management and mitigation of identified impacts, particularly where individual stakeholders have a potential role to play in these management measures, e.g. the potential role of fishermen to carry oil spill contingency equipment on their vessels

All baseline data acquired for the project should be provided in native files to the LPA and MOE together with any georeferenced spatial information such as coordinates, of sampling points, transects, etc. This also includes video footage, still pictures and any other data collected.

Proponents are required to provide their data in a format aligned with system requirements of LPA's databases, supported by Geographic Information Systems (GIS). Baseline data should be made available in a spatial format (ESRI geodatabase or similar) with information about sample areas/positions/transects such as georeferenced sampling points, survey stations and transects, and delineation of survey and project areas.

4.2.7.5 Potential environmental impacts

The Proponent should describe the methodology to assess potential project impacts which should be based on a transparent and logic approach, professional knowledge and the following key considerations:

- Impact type including positive or negative, direct or indirect, primary or secondary
- Impact parameters to be assessed should include:
    - Magnitude of impact, i.e. degree of change from baseline conditions
    - Extent, i.e. spatial extent of impact
    - Duration, i.e. temporal extent of impact
    - Sensitivity of receptor considering its vulnerability, value and resilience
- For each parameter a ranking value (e.g. from 1 - 5) should be provided with associated definitions (see example in Fact box 4.3). The definitions for each ranking should be as quantitative/numerical as possible and tailored to the project specifics

Fact box 4.3
Example on impact duration ranking

Value	Definition
1	Transient, < 1 year
2	Short term: 1- 5 years
3	Medium term: 6 – 15 years
4	Long term: 16 – 25 years
5	Very long term: > 25 years

- The assessment of the specific impact parameters should lead to an overall significance score using a defined formula (e.g. magnitude + extent + duration + receptor sensitivity = significance score)
- A threshold or criteria should be defined for the significance score to differentiate between significant and not significant impacts
- To increase the transparency of the impact assessment wording with clear definitions should be used as far as possible
- A clear differentiation should be provided to enable the reader to distinguish between pre- and post-mitigation impact ranking. As a minimum, post-mitigation impacts should be ranked and defined as residual impacts
- The assessment of impacts should be done for each project phase individually
- Mitigation measures should be clearly linked with the impact assessment and considered when defining residual impacts. These may include mitigation by design, management options or technical requirements

The description of impacts should cover the "potential environmental impact of the project: identification, estimation, and assessment of all potential effects of the project on the environment whether positive or negative, direct or indirect, over the short or long term", as stated in the EIA Decree, Annex 7. Modelling of cuttings dispersion and underwater sound propagation should be considered for assessing related impacts.

The assessment of potential impacts should be carried out by considering the environmental and social baseline conditions and the project components and activities (project description). It should be based on professional knowledge and expertise supported by evidence through scientific data or technical studies as appropriate, such as the results of modelling.

The impact assessment should cover all relevant receptors identified during scoping plus any additional receptors potentially identified at a later stage. Each relevant receptor (or VEC) should be ranked individually. Pre- and post-mitigation ranking should be provided for each project phase and hence all mitigation measures for the specific impacts should be clearly stated including providing a unique tracking ID for each measure (see also Section 4.2.7.54.2.7.6 for further details).

Normal operating conditions and accidental events should be considered separately. The results of a risk assessment using credible and substantiated scenarios to define accidental events should be used as input to the assessment of accidental events. Mitigation measures should be tailored to these results and linked to emergency response and contingency planning.

Proponents should consider any applicable Strategic Environmental Assessment (SEA) as well as the EBI 'Good Practice in the Prevention and Mitigation of Primary and Secondary Biodiversity Impacts'[7] for potential mitigation measures of impacts. Fact box 4.4 below provides examples of measures to minimize impacts of exploration drilling.

[7] EBI (2005)

Cumulative impacts, if applicable, should also be addressed. Good practice requires that, as a minimum, an assessment should be made during the EIA to assess whether the project may contribute to cumulative impacts on receptors or VECs and/or may be at risk from cumulative effects on receptors/VECs they depend on. The objective is to understand the cumulative impacts on the receptors/VECs identified for the project when considered with:

- Past, recently developed, currently under development and reasonably defined or foreseeable third-party projects
- Developments or activities induced by the project, for example new supply bases or harbour facilities build in anticipation of future business
- Associated facilities

Fact box 4.4

Examples on measures to minimize impacts of exploration drilling

- Identify features (e.g. seagrass beds, turtle nesting areas) in the vicinity of operations, and minimise interference
- Avoid sensitive areas/habitats and most sensitive seasons for fisheries, fish spawning and animal migration
- Use of drilling rig or ship with DP (to minimize use of anchors) if operating in areas with risk for damaging vulnerable natural resources

Guidance is provided in the IFC Good Practice Handbook on cumulative impact assessment and management (2013).

4.2.7.6 EMP

The EMP is an integral part of the EIA process. It ensures the management of impacts via the implementation of the mitigation measures proposed as well as monitoring of residual impacts. It also allows assessing the effectiveness of mitigation throughout the installation and implementation phase of the project. The Proponent should consider any SEA applicable at the time with respect to mitigation, targets and indicators.

In addition to relevant commitments the EMP should include and conform to:

- Good international industry practice (GIIP) / best available practices
- Requirements of the Proponents' internal policies and standards
- Lebanese national legislative requirements and guidelines including the EIA Decree.
- Mitigation measures and recommendations of the SEA for Petroleum Activities in Lebanese Waters as well as any other Lebanese SEA as applicable

The EIA Decree, Annex 8 defines the requirements for the EMP as comprising:

1. Negative impact mitigation program
2. Monitoring and control program
3. Institutional capacity development program

As part of good practice, the Proponent should demonstrate how to:

- Achieve the predicted positive benefits predicted
- Mitigate the predicted adverse impacts
- Describe the company's requirements on contractor(s) to implement the commitments

- Provide the mechanisms for achieving compliance with legal requirements, the EIA and corporate EHS policies
- Provide a framework for the development of detailed implementation plans by the contractor(s)

Typically, and as required by the EIA Decree, an EMP is presented in the main body of the EIA Report. However due to size and practical reasons, the EMP should be a stand-alone volume, which should be used by the Proponent and the MOE/LPA for monitoring and supervision. The EMP should be part of the company's overall management system and in line with international standards for management systems such as ISO 14001. This will allow for adaptive management of mitigation measures following the plan-do-check-act improvement cycle.

Overall, the EMP should consist of two sets:

- An EMP framework to inform how the Proponent intends to manage the various work packages/contractors involved in the project and any own project activities. The framework should provide a description of the respective roles and responsibilities as well as the interface management, i.e. the relationship between the Proponent and contractors involved. It should also describe measures to ensure adequate contractor performance including inspections and audits.
- EMP instructions (or contractor control plans) informing contractors of what is expected regarding their particular work package based on the mitigation measures of the EIA.

It is expected that the EMP is part of the ToR for the relevant work packages and thus shared with bidders as this will ensure that EMP activities are adequately resourced by the chosen contractors.

Contractors are expected to prepare their own implementation plans to document how they will comply with the above.

The EMP should include the allocation of the EIA commitments in the topic-based management plans, the allocation of responsibilities for implementation between the company and its contractor(s) and the addition of further information on how the commitment should be implemented, as needed.

The impact mitigation program should be established in form of a commitment register, where each commitment has a specific ID (number). The same ID should be referenced in the EIA and the EMP to ensure consistency and provide the possibility for tracking of commitments.

The commitment register should be provided in Excel format covering all relevant activities, associated impacts and proposed mitigation measures, monitoring parameters, frequencies and performance indicators. The objective of the commitment register is to provide a tool for ensuring all mitigation measures stated in the EIA Report are actually implemented, assignment of responsibilities is clear and monitoring of the effectiveness of the proposed mitigation takes place in pre-defined frequencies. The commitment register is therefore an environmental management and monitoring tool which should be linked to an overall environmental management system. The register should contain the following columns as a minimum and should be sortable:

- Specific identification (ID) for each mitigation measure

- Project phase (e.g. installation and implementation)
- Spatial reference or location specific information (as relevant)
- Activity
- Receptor/VEC impacted by activity
- Mitigation measure (as proposed in the EIA Report)
- Responsible party (for implementation)
- Operation of a grievance procedure/mechanism
- Incident reporting and investigation
- Audits
- Performance monitoring

Reporting requirements to the regulator should be clearly defined.

The EIA Decree requires the allocation of cost to mitigate negative impacts. It is recommended to establish cost against mitigation in form of matrices to be provided separately as this will facilitate publishing the EMP if applicable.

EMoP

The EIA Decree also requires an EMoP for the proposed project to be developed as part of the EMP. Usually the EMoP is one of the management plans of the EMP.

The EMoP should define responsibilities and arrangements for:

- Compilation of a register of emissions and discharges
- Monitoring of types and amounts of emissions and discharges (monitoring parameters, equipment, location, frequency, standards, data protocols, etc.)
- Inspections of activities to check the effectiveness of the mitigation measures and implementation of the EMP
- Social monitoring (as part of the SMoP)
- Parameters to be monitored
- Performance indicators or acceptance criteria
- Monitoring frequency
- Compliance monitoring, inspections, etc. incl. reporting to the regulator
- Preparation of an End of Activity Report summarising all relevant project information and findings (see below)
- Cost for monitoring program

It is recommended to provide the cost for the monitoring program separately in form of a matrix as this will facilitate publishing the EMoP, if applicable.

The Proponent should also identify and monitor against a set of key performance indicators that are set to achieve the key positive impacts or mitigation measures. These should be presented in tabular format with the target to be achieved and responsibility for implementation.

End of Activity Reporting

Requirements for a report to MOE/LPA after the finalisation of the project activity described in the EIA Report include:

- Provision of link to the EMP and its requirements for monitoring and reporting incl. any LPA/MOE comments potentially received on the EMP
- Declaration regarding the fulfilment of the EMoP and other plans under the EMP. Provision of explanations and rationale for deviations or non-conformances with the EMP, if any, and any ongoing activities not yet finalised
- Timelines for milestones of operational activities (onshore and offshore, incl. decommissioning of the mud plant as applicable) and outlook on any activity potentially ongoing
- For impacts being different to the impact forecast of the EIA a comparison of the forecasts and the actual impact should be provided incl. a rationale and description of any implications
- Assurance of compliance with international conventions ratified /signed by Lebanon, such as MARPOL and IMO
- Submission within 3 months after removal of the drill ship from the drilling site (per well)

Fact box 4.5

Typical content of an End of Activity Report for exploration drilling

- Comparison of actual performance versus forecast described in EIA Report
- Waste (by waste code) incl.
  - Summary of all waste types transferred and stored
  - Reference to hazardous waste reporting in accordance with Decree 5606/2019 for full documentation of hazardous waste
- Drilling fluids
  - Drilling fluids
  - Type of chemical incl. color coding for toxicity
  - Forecasted and actual consumption plus volumes discharged offshore
- Consumption and discharge volumes offshore (cement, BOP fluids, cooling water, drainage/run-off incl. bilge and slop, food waste, sanitary wastewater
  - ballast water intake vs. discharge, other)
- Consumption and discharge volumes onshore (logistics base)
- Water usage/consumption
- Spills/accidental discharges and incidences (offshore and onshore)
- Ambient noise
- Air emissions (fuel consumption and associated emissions from fuel consuming equipment such as air and vessel traffic, generators or flaring/venting, as applicable
- Sea floor conditions
  - ROV images, videos
  - Interpretation of results (pile shape, dimensions, height, etc.)
  - Other observations, if any (e.g. bioconstructions)
- Marine fauna findings (marine mammals sightings and vocalisations, reptiles, marine birds

Fact box 4.5 outlines the typical content of an End of Activity Report for exploration drilling. The specific content will be agreed during the scoping phase of the EIA.

4.3 EIA

EIAs should be prepared according to good international industry practice (GIIP) and should follow the scope of work approved as part of the Scoping Report. Selected references to sources of GIIP have been included in the Guidelines in Section 1.3.1.2.

Integration of environmental and socio-economic issues into project management, planning, design, installation or construction, operations and plugging and abandonment should be demonstrated. The results should be presented in the EIA, EMP and EMoP submitted to MOE for approval via submission to the LPA. The objective is to demonstrate that concrete actions have been taken to design out, by choice of locations/routes and technologies, and mitigate potential negative impacts as far as possible and that unavoidable residual impacts are properly compensated and taken care of. This process should also focus on how to strengthen positive impacts on the society. Proponents should ensure that the requirements for EIA of all parts of the project are identified and understood.

EIA in this context refers to the requirements listed in Annex 8 of the EIA Decree which include an assessment of the physical, chemical, biological and socio-economic environment, i.e. the use of the term environment in a holistic manner.

Proponents should ensure that the EIA considers all relevant project phases. In case of an exploration drilling project these are likely to include mobilisation, installation, project implementation, i.e. exploration drilling activities (including all exploration and appraisal wells, well testing, well plugging and abandonment, demobilisation, etc).

The below Sections 4.3.1 to 4.3.8 provide the EIA structure in line with Annex 8 of the EIA Decree (summarized in Fact box 4.6).

Fact box 4.6

Summary of Annex 8 of the EIA Decree: Information required for the EIA Report

1. Executive Summary
2. Table of Contents
3. Introduction
4. Policy, legal and administrative framework
5. Public participation
6. Description of the proposed project
7. Description of the surrounding environment
8. Potential impacts of the project
9. Analysis of project alternatives
10. Environmental management plan
11. Conclusion
12. Annexes

In addition, the EIA should adhere to the instructions provided in Fact box 4.7 regarding structuring the EIA Report.

Content requirements for the core individual chapters are detailed in the scope of work contained in the Scoping Report (see Sections 4.2.7.1 to 4.2.7.6), with some additional considerations provided in the subsections below.

Fact box 4.7

Instructions for structuring the EIA Report

- A complete Table of Content (ToC) including respective page numbers should be provided
- The ToC should show all header levels used
- The ToC should be hyperlinked with the respective EIA chapters
- Page numbering should be continuous throughout the report (except for annexes)
- Each annex should have its own ToC and continuous page numbering

4.3.1 Policy, legal and administrative framework

See Section 4.2.7.1 and Appendix B.

4.3.2 Public participation

The overall Stakeholder Engagement Plan (SEP) developed during the scoping phase should be updated with a focus on stakeholder engagement activities for each of the EIA phases, i.e.:

- Baseline and impact assessment phases: which aims at discussing impacts with stakeholders
- EIA report-back phase: which aims at informing stakeholders about the outcome of the EIA and receiving their comments

Public consultation is an integral part of the EIA as per Annex 8 of the EIA Decree and it is good practice to consult on the draft EIA Report to present the consultation results in the EIA Report submitted to the MOE and use any concerns/issues raised to amend the report, mitigation and management measures if needed. For this purpose, information on cost, such as for implementation of the EMP or EMoP should be provided separately to the MOE/LPA as confidential financial information should not be published.

Consultations on the draft EIA Report should focus on ensuring that participants understand the content of the EIA and generally accept the validity of the findings of the EIA process, the resulting impact assessment and the identification of mitigation and management measures. As described in the SEP for the EIA phase a mix of public meeting(s), workshops with key stakeholder groups and one-on-one meetings with key stakeholders should be used, as needed. In addition, the grievance mechanism should be clearly described to enable stakeholders to voice comments or grievances at any time via established channels for efficient grievance resolution as grievances may already come up during the EIA phase, e.g. complaints regarding incomplete information and unfair or discriminating treatment.

The overall process for EIA consultations should be as follows:

- The Proponent should arrange consultation meetings with stakeholders as defined and agreed upon in the SEP as early as possible. Sharing the SEP with the MOE/LPA should not be an obstacle to initiating stakeholder meetings. At least one general public meeting shall be held, to which all relevant stakeholders shall be invited.
- Once the draft EIA Report is sufficiently advanced, the Proponent should publish it on its company website or any other website agreed with the MOE/LPA, for at least two weeks and solicit comments from the general public and from public authorities (see also Figure 4.1).
- The Proponent should advertise the draft EIA Report, as appropriate to the project context, to inform the general public about the results of the impact assessment and receive stakeholder feedback. The advertisement will include information that the draft EIA Report has been posted online for stakeholder review and feedback, it will also provide information about how such feedback can be provided and will include the date and location of the planned general public meeting(s).

- The Proponent should send out invitation letters to the public consultation session to the relevant authorities specified in the SEP, including those who commented on the Scoping Report, and provide proof that these letters were registered by their destined invitees at least fifteen (15) days before the date of the general public meeting(s). The invitations should include a brief of the project and a referral to the draft EIA Report published on the company website
- The LPA may issue a letter of information to relevant governmental entities to encourage their participation in the general public meeting planned by the Proponent.
- In accordance with the EIA Decree, feedback by the public can be submitted within a period of one month once the project is advertised. Feedback should be submitted to the Proponent who will provide an automatic transfer (real time) to the LPA and MOE. The means for submitting feedback to the Proponent (e.g. via the company website and in writing) will be defined on the respective website, in the Proponent invitation letters, and in the LPA information letters.
- General public meetings shall be announced at least fifteen (15) days before being held. In addition, the meetings shall be held at least ten (10) days before the receipt of the Scoping Report by the MOE.
- All stakeholder feedback received within the consultation period will be considered in the updated EIA Report, before submission to LPA.
- The Proponent will submit the updated EIA Report to LPA for a first round of review by the LPA. It is also important to note the potential for:
    - The LPA might engage other Ministries in the review process as appropriate.
    - The Proponent might need to update the EIA Report based on comments received from the LPA prior to submission to the MOE through the LPA.
- The approved (final) EIA Report will be published on the LPA website.

The EIA Report should include a description of the consultation process and a summary of the main findings and concerns raised by stakeholders during the scoping and EIA phase. The MOE/LPA requires minutes of meetings, with a signed attendance list, to be attached to the EIA Report. This should also include the information provided by the MOE and the LPA as part of the official consultation process. The consultant should also include a register highlighting which stakeholders' comments were addressed and how as well as a justification why others weren't addressed.

Disclosure shall respect provisions of Petroleum Activity Regulation Article 154 and EPA Article 35 regarding confidentiality of information and shall take into consideration Article 10 in Law 84/2018 (Transparency in the Petroleum Sector) and Article 14 in Law 444/2002.

The consultation process and results should be included in the final EIA Report. Notes of minutes of meetings, together with a signed attendance list should be appended to the EIA Report. The approved (final) EIA Report in English language, including a Non-Technical Summary in English and Arabic, should be made publicly available by the Proponent.

4.3.3 Description of the proposed project

The overall project including all project components, activities and its technical and organizational set-up should be described. Related facilities or activities as well as any associated developments should be described in line with the definition provided in IFC PS 1 (2012). See Section 4.3.7.3 for more details.

4.3.4 Description of the surrounding environment

This section describes the approach to define relevant receptors (or VECs) and their area of influence in line with Section 4.2.7.4.

Furthermore, all receptors (or VECs) identified during the scoping stage, or subsequently during stakeholder consultation or other means, should be described using all relevant available data sources and considering data gaps identified during scoping. This may include the following, depending on the outcome of the scoping:

- Physical environment, e.g. air, water, sediment, noise and tectonic setting
- Chemical environment, e.g. air quality, sediment quality and water quality
- Biological environment, e.g. benthos, plankton, fish, marine mammals, marine turtles, avifauna, areas of conservation status, species with conservation status and threats and trends
- Socio-economic environment, e.g. fisheries, marine or coastal based livelihoods, social services, employment, vulnerable groups, human rights and cultural heritage

The description of the environment should include a concise description of the baseline conditions that are relevant to the project, with references to studies, reports, field surveys, monitoring records, etc. Primary data should be supplemented with secondary data as applicable to enable a complete description of the relevant environmental and social baseline conditions.

All sources of information must be up to date and adequately referenced. As a rule, maps and figures should be of good quality and easy to read. The data quality must be assessed, and any uncertainties and gaps clearly identified.

Focus should be given to aspects likely to be significantly affected. The guiding principle is to provide such baseline as required to assess the sensitivity of a specific receptor with respect to the subsequent impact assessment and decision making. A proportionality between the baseline description and the impact assessment and monitoring should thus be achieved.

4.3.5 Potential impacts of the project

In line with the EIA Decree, all potential environmental and social impacts of the project should be considered and assessed. This should also include transboundary impacts, e.g. from a chemical spill or oil spill due to a major blow-out reaching neighboring jurisdictions. Cumulative impacts should also be considered.

The assessment of impacts should be based on the impact assessment methodology described in Section 4.2.7.5. It should cover all relevant receptors identified during scoping plus any additional receptors potentially identified at a later stage, such as during

the EIA baseline data collection phase. Each relevant receptor or VEC should be ranked individually. As a minimum, post-mitigation ranking should be provided for each project phase and all mitigation measures should be clearly stated including using a unique ID for each mitigation measure. Impacts from planned activities should be considered separately from unplanned events.

4.3.6 Analyses of project alternatives

Alternative options should be identified and assessed in line with Section 4.4.7.6. The analysis of the alternatives in the EIA should build upon the assessment included in the Scoping Report. All project alternatives considered should be clearly described. In line with EIA Decree Annex 8, point 9 these shall include feasible technical options, alternative projects with the same objectives, comparing various environmental and economic potentials and the zero alternative. A rationale should be provided why the preferred option(s) have been chosen against other alternatives. The chosen alternative should represent GIIP, as defined in the IFC EHS Guidelines for onshore and offshore oil and gas developments[8]. Reasoned justification, if the chosen option is not the GIIP, should be given. Positive as well as adverse impacts should be considered.

4.3.7 EMP

The EMP is an integral part of the EIA that should be developed in line with the requirements stated in Appendix D.

4.3.8 Management of Change

In case an approved project requires modifications, which could render the environmental approval invalid, the Proponent should inform the MOE of any change to the consented project. A notification of change should be submitted, and the MOE will then decide on the variance and whether supplementary information to the existing EIA Report is required (see also Section 2.3.2).

Where supplementary information is required, the scope of work for the submission of information in relation to the proposed variations should be submitted by the Proponent and discussed with the MOE. It is vital that any addendum is linked to the corresponding EIA Report and clearly identifies any changes to that specific EIA. It is therefore important for Proponents to have adequate management of change procedures in place and that these are described comprehensively in the EIA Report and its associated EMP.

[8] IFC (2007) and IFC (2015)

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APPENDICES

APPENDIX A. EXAMPLE LIST OF STAKEHOLDERS

Depending on project specifics the list of stakeholders to be consulted could include:

- **National Government**
  - Ministry of Environment
  - Ministry of Defence
  - Ministry of Industry
  - Ministry of Interior & Municipalities
  - Ministry of Foreign Affairs and Emigrants
  - Ministry of Justice
  - Ministry of Tourism
  - Ministry of Culture- Department of Antiquities
  - Ministry of Agriculture- Department of Fisheries and Wildlife
  - Ministry of Energy & Water
  - Ministry of Finance / custom authorities
  - Ministry of Public Health
  - Ministry of Labour
  - Ministry of Public Works & Transportation, including Port Authorities, Directorate General of Civil Aviation, etc.)
  - Ministry of Social Affairs
  - Ministry of Economy and Trade
- **Local government**
  - Governors (of governorates in which the project is located)
  - Municipal heads and mayors (in which the project is located)
- **Universities and Research Institutes**
  - Institute of Environment at the University of Balamand
  - American University of Beirut (Department of Marine Biology)
  - National Council for Scientific Research (CNRS)- National Centre for Marine Sciences
  - Others
- **PAPs**
  - Fishing cooperatives and syndicates
  - Fish auction yards
  - Community based organisations
  - Syndicate of divers
- **NGOs**
  - Environmental
  - Social
  - Others
- **Business**
  - Tourism operators
  - Coastal hotels
  - APIC (Association of Petroleum Importing Companies)
  - Syndicate of owners of marine tourist establishments
  - Shipping lines

APPENDIX B. NON-EXHAUSTIVE LIST OF LEGISLATION AND INTERNATIONAL CONVENTIONS CURRENTLY RELEVANT AND SUBJECT TO CHANGE AFTER 07-03-2022

Legislation	Year	Title
LAWS		
1. Law No. 84	2018	Law for supporting transparency in the petroleum sector
2. Law No. 80	2018	Integrated Solid Waste Management principles and guidelines
3. Law No. 78	2018	Law for the Protection of Air Quality
4. Law No. 77	2018	Water Resources Law
5. Law No. 251	2014	Lawyers and investigation judges for environmental related cases
6. Law No. 132	2010	Offshore Petroleum Resources Law (OPRL)
7. Law No. 690	2005	Organization of the Ministry of Environment
8. Law No. 444	2002	Environmental Protection Law
9. Law No. 708	1998	Creation of Tyr Coast Nature Reserve in Jaftlak Ras Al Ain – Tyr Real Estate Zone
10. Law No. 212	1993	establishment of the Ministry of Social Affairs as amended
11. Law No. 121	1992	Establishment of two nature reserves (in some of the islands in front of Tripoli Beach)
12. Law No. 64	1988	Preservation of the environment against pollution from dangerous waste and hazardous substances
DECREES		
13. Decree No. 5606	2019	Municipal Solid Waste sorting from source
14. Decree No. 5606	2019	Determination of the Fundamentals of Hazardous Waste Management
15. Decree 43- Annex 2	2017	The Exploration and Production Agreement (EPA)
16. Decree 167 17. &MOE Decision No 1281	2017	Application of Article 20 of Law 444/2002. (Tax reduction)
18. Decree 3989	2016	Environmental Police
19. Decree No. 10289	2013	Petroleum Activities Regulations (PAR)
20. Decree No. 8633	2012	Environmental Impact Assessment
21. Decree No. 8471	2012	Environmental compliance standards for industrial establishments
22. Decree No. 8213	2012	Strategic Environmental Assessment in the public sector
23. Decree No. 7968	2012	Lebanese Petroleum Administration (LPA)
24. Decree 8044	2012	Management of Tyr's Coast's Natural Reserve

Legislation	Year	Title
25. Decree No. 5243	2011	Classification of industrial institutions
26. Decree No. 2604	2009	Control of materials that depletes of the Ozone layer
27. Decree No. 2275	2009	Organization and mandates of the MOE.
28. Decree 2366	2009	National Land Use Master Plan
29. Decree No. 15512	2005	Application to decree No. 105 dated 6 of September 1983 for regulating the use and protection of/from ionizing radiations.
30. Decree No. 13389	2004	Types of wastes of health institutions and how to discharge them
31. Decree No. 9765	2003	Monitoring of industrial institutions
32. Decree No. 9765	2003	Control measures and penalties relating to industrial establishments
33. Decree No. 5509	1994	Determines the general regulatory requirements for storage tanks transport tankers and distribution stations of petroleum products
34. Legislative Decree No. 105	1983:	Regulating the use of licensing, ionizing radiation and protection from it
35. Decree No. 8377	1961	Organization of the Ministry of Public Health
		DECISIONS
36. MOE Decision No. 59/1	2020	Determination of the procedures and fundamentals for implementing the first chapter (Hazardous waste storage facilities) of Section Three of the Decree Determination of the Fundamentals of Hazardous Wastes Management (No. 5606 of 11/9/2019)
37. MOE Decision No. 998/1	2019	Determination of the procedures and fundamentals for implementing the first chapter (Generator and his obligations) of Section Two of the Decree Determination of the Fundamentals of Hazardous Wastes Management (No. 5606 of 11/9/2019)
38. MOE Decision No. 999/1	2019	Determination of the procedures and fundamentals for implementing the second chapter (Carrier and his obligations) of Section Two of the Decree Determination of the Fundamentals of Hazardous Wastes Management (No. 5606 of 11/9/2019)
39. MOE Decision No. 1294/1	2017	Environmental conditions for transport of healthcare wastes
40. MOE Decision No. 189	2016	Review procedure for environmental audit studies
41. MOE Decision No. 589	2015	Defining the procedure for the review of Strategic Environmental Assessment Scoping Reports (SEA scoping) and Strategic Environmental Assessment Reports (SEA)
42. Decision 396/1	2014	Ban on catching seabirds
43. Decision 1044/1	2014	General conditions to protect cetaceans
44. MOE Decision No. 99/1	2013	Guidelines for submitting information on greenhouse gas emissions by the companies and industrial and

Legislation	Year	Title
		commercial institutions in order to obtain a declaration from the MOE
45. MOE Decision No. 20/1	2011	Amendment of two specifications of liquid waste generated by the chemical companies to be discharged into the sea
46. MOE Circular No. 11/1	2011	Periodic report for the treatment of hazardous and infectious medical waste
47. MOEW Decision No. 14	2005	Establishment of the Committee for field emergencies for energy issues and aquatic resources
48. MOE Decision No. 8/1	2001	National Standards for Environmental Quality (NSEQ) related to air contaminants and liquid waste emitted from classified establishments into receiving water bodies. Amends Decision 52-1/1996
49. MOE Decision No. 125/1	1999	Prohibiting fishing of whales, seals and marine turtles
50. MOE Decision No. 71/1	1997	Regulation of the import of wastes and the amendment of Decision No. 22/1 of 1996
51. MOE Decision No. 56	1997	Determines the specifications of petroleum derivatives
52. MOE Decision No. 52/1	1996	National standards for environmental quality and environmental limit values for air, noise, water and soil, Amended by MoE Decision 8/1/2001.

Treaty, Convention or Protocol	Status
1. Minamata Convention on Mercury, 2017	Ratified via Law No. 2/2017
2. Paris Agreement - Paris Climate Conference (COP21)-2015	Signed in 2016
3. Accession to the Barcelona Convention Protocol on Integrated Coastal Zone Management in the Mediterranean (ICZM) (1995)	Accessed via Law No. 639/2014
4. 2002 Emergency Protocol of the Barcelona Convention	Grant to join via Law No. 254/2014
5. The International Convention on Civil Liability for Bunker Oil Pollution Damage (BUNKER)	Accessed via Decree No. 10285/2013
6. The International Convention on Civil Liability for Bunker Oil Pollution Damage (BUNKER)	Grant to join via Law No. 141/2011
7. The International Convention on the control of harmful anti-fouling systems on ships, 2001	Grant to join via Law No. 100/2010
8. IMO Ballast Water Management Convention	COM Decision 31/2009
9. Cartagena Protocol on Biosafety	Ratified via Law No. 31/2008
10. Ratification of the amendments made to the Barcelona Convention on the protection from polluting the Mediterranean Sea	Ratified via Law No. 34/2008
11. The Kyoto Protocol of the United Nations Framework Convention on Climate Change	Ratified via Law No. 738/2006

Treaty, Convention or Protocol	Status
12. Rotterdam Convention on the prior informed consent procedure for certain hazardous chemicals and pesticides in international trade	Ratified via Law No. 728/2006
13. IMO International Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC)	Ratified via Law No 605/2004
14. The conservation of Cetaceans in the Black Sea, Mediterranean Sea and contiguous Atlantic-ACCOBAMS	Grant to join via Law No. 571/2004
15. 1992 Protocol which amends the International Convention on Civil Liability for oil pollution damage (CLC) (1969)	Grant to join via Law No. 607/2004
16. Stockholm Convention on Persistent Organic Pollutants	Ratified via Law No. 432/2002
17. Agreement on the conservation of African-Eurasian Migratory Water Birds (AEWA)	Grant to join via Law No. 412/2002
18. Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management	Signed on 9/30/1997
19. Copenhagen amendment to the Montreal Protocol on Substances that deplete the Ozone Layer	Ratified via Law No. 120/1999
20. The Convention on Wetlands of International Importance – (Ramsar)	Ratified via Law No. 23/1999
21. Convention on Biological Diversity (CBD)	Ratified via Law No. 360/1994
22. United Nations Framework Convention on Climate Change (UNFCCC) treaty, Rio de Janeiro	Ratified via Law No. 359/1994
23. Two protocols of Barcelona Convention: 1980 Land-Based Sources Protocol (LBS Protocol) and 1982 Specially Protected Areas Protocol	Ratified via Law No. 292/1994
24. The United Nations Convention on the Law of the Sea (UNCLOS)	Ratified via Law No. 295/1994
25. The International Convention relating to the Limitation of the Liability of Owners of Sea-Going Ships, and Protocol (Brussels, 1957)	Accessed via Law No. 294/1994
26. Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal	Ratified via Law No. 387/1994
27. a) Vienna Convention for the Protection of the Ozone Layer b) Montreal Protocol on Substances that deplete the Ozone Layer	Ratified via Law No. 253/1993
28. UNESCO Convention on the Protection of Cultural & Natural Heritage, 1972	Adhesion via Law 19 dated 30/10/1990.
29. MARPOL 73/78 and its annexes: Annex1, Annex II, Annex III, Annex IV, and Annex V	Ratified via Law No. 13/1983
30. Barcelona Convention and two of its protocols: a) 1976 Dumping Protocol, b)1976 Emergency Protocol	Ratified via Leg. Decree No. 126/1977
31. IMO International Convention relating to intervention on the High Seas in cases of Oil Pollution Casualties	Ratified via Decree No. 9226/1974

Treaty, Convention or Protocol	Status
32. The International Convention on Civil Liability for Oil Pollution Damage (CLC), 1969	Ratified via Law No. 28/1973
33. The International Convention for the Prevention of Pollution of the Sea by Oil (OILPOL) 1954 and its 1962 amendments	Ratified via Law No. 68/1966

APPENDIX C. GUIDANCE ON ESTABLISHING ENVIRONMENTAL BASELINE PRIOR TO OFFSHORE RECONNAISSANCE AND EXPLORATION DRILLING ACTIVITIES

Table of Content

TERMS & ABBREVIATIONS

Barcelona Convention: The mechanism by which the Mediterranean countries and the European Community adopted the first-ever Regional Seas Program to protect the Mediterranean marine and coastal environment.

Benthos: Community of organisms that live on, in, or near the sediment surface (ie seabed bottom), also known as the benthic zone. Macrobenthos >1mm in size, meiobenthos <1mm >0,1mm in size, microbenthos <0,1mm.

CEMP: Coordinated Environmental Monitoring Program run by OSPAR with the goal of providing comparable data from all OSPAR marine areas. The program develops common guidelines for planning, implementation, analysis and reporting (formerly known as JAMP Guidelines).

EBS: Environmental baseline survey undertaken to establish the current baseline conditions prior to project start.

Field: A field consists of a potential hydrocarbon reservoir in the rocky strata of the Earth. An impermeable or sealing rock layer covers the reservoir.

Field specific stations: These stations are established in order to detect the extent of impact from activity at the potential production fields.

IEC: The International Electrotechnical Commission.

Infauna: Benthic organisms that live within the bottom oceanic sediments.

IOGP: The International Association of Oil & Gas Producers represents the global upstream oil and gas industry and is member funded. Members operate around the globe, producing about 40% of the world's oil and gas.

ISO: The International Organization for Standardization develops and publishes International Standards.

ISO/IEC JTC 1: A joint technical committee of the ISO and the IEC, which develop, maintain and promote standards in the fields of Information Technology (IT) and Information and Communications Technology (ICT).

JAMP: The Joint Assessment & Monitoring Programme is the forerunner to the CEMP monitoring programme.

JNCC: The Joint Nature Conservation Committee is the statutory adviser to the UK government and devolved administrations on UK-wide and international nature conservation. An executive non-departmental public body, sponsored by the UK Department for Environment, Food & Rural Affairs.

Marine environment: Marine environments are those in the world's seas and oceans below the mean high tide mark. They relate to the morphology of nearshore, offshore, and deep-water zones of the ocean.

MFO: A Marine Fauna Observer is an individual trained for marine mammal observations (MMO, see below), who will also record other fauna, such as turtles and sea birds.

MMO: The Marine Mammal Observer is an individual responsible for conducting visual watches for marine mammals for mitigation purposes and providing advice to enable compliance with JNCC Guidelines. The individual has undertaken JNCC recognized MMO course and has experience of visually spotting marine mammals.

NPD: The sum of Naphthalene, Phenanthrene, Dibenzothiophene and their C1-, C2- and C3 alkyl homologues.

PAH: Polycyclic aromatic hydrocarbons, are hydrocarbons in which the molecule contains two or more aromatic rings.

PAM: Passive Acoustic Monitoring Systems that utilizes hydrophones and specialist software to detect vocalisations of marine mammals.

PAM operative: An individual responsible for conducting acoustic searches for marine mammals who is experienced in the use of PAM equipment and marine mammal acoustics.

PLONOR chemicals do not normally need to be strongly regulated as, from assessment of their intrinsic properties, the OSPAR Commission considers that they Pose Little Or No Risk (PLONOR) to the environment with regards to offshore use and discharge.

ROV: A Remotely Operated Vehicle deployed during surveys. ROVs carry video cameras but can also be equipped with extra gear such as sonar, sensors, a manipulator arm and sampling equipment.

Spud: Starting the well drilling process by removing rock or sedimentary material with the drill bit.

THC: Content of all hydrocarbons in the material within a particular range of carbon chain lengths, (n-C12 – n-C35), both those formed biologically and those originating from oil and other sources of pollution.

TOC: Total organic carbon is the amount of carbon found in an organic compound. A non-specific indicator of water quality. Can also refer to the amount of organic carbon in soil.

OSPAR: The mechanism by which 15 Governments & the EU cooperate to protect the marine environment of the North-East Atlantic.

Reference station: Stations placed in an area regarded as unpolluted, showing background (natural) levels of environmental contaminants. In offshore monitoring, established reference stations are termed "regional stations", which are used from year to year both in the baseline survey and for later monitoring surveys of the (expected) field.

Replicates: Identical copies of a sample which are important to validate empirical data or the observed results. In general, a research plan entails three replicates so that the results obtained from them can be verified. Thus, the relative differences of data from the three replicates can be measured and compared. A low deviation is ideal to represent a veritable data from where a conclusive inference can be derived upon.

SD: The Standard Deviation is a measure of the amount of variation of a set of values from the mean.

SE: The Standard Error measures how far the sample mean of the data is likely to be from the true mean.

1 INTRODUCTION AND PURPOSE

Environmental monitoring should be undertaken throughout the different phases of offshore oil and gas activities. The scope and frequency of the monitoring program should relate to the expected risk, and hence the program will be less extensive for a single exploration drilling than for field development and production. The scope of a specific survey should be defined through a scoping exercise with involvement of the MOE to ensure that the survey scope and extent meets their requirements, (see also Section 2 of this Appendix for more details).

Key guidance is provided by the OSPAR Guidelines for monitoring environmental impact of offshore oil and gas activities (Agreement 2017-2), hereafter referred to as the OSPAR Guidelines (2017).

Guidance is provided on the overall survey program design and undertaking to ensure consistency between the various surveys with the purpose to:

a) build knowledge on the marine environmental conditions in Lebanon

b) assess potential impacts from discharges of a specific project by comparing the baseline conditions with potential monitoring results, if applicable

c) compare the results of the various surveys over time

d) enable a holistic evaluation of potential impacts from the oil and gas developments across the Lebanese maritime territory over time with a focus on spatial and temporal changes of sediment, biological communities and habitats

e) allow for appropriate measures to be taken in case of unpredicted development of planned and unplanned activities in the long-term

This Appendix concerns establishing the baseline conditions for the reconnaissance and exploration phase where discharges are limited and temporary. For the exploration phase the focus is therefore placed on bottom habitats, which is where the potential effects of exploration drilling might occur.

In general, environmental monitoring programs include both baseline surveys prior to any petroleum activities and subsequent follow-up surveys:

Baseline surveys are undertaken to provide data on the existing environment, providing a snapshot of the prevailing baseline conditions prior to a project being undertaken. Baseline surveys support the EIA in documenting the existing environmental conditions at the time and define potentially existing pollution levels to allow a forecast of the effects and extent of the effects of envisaged discharges by the project. Baseline surveys also assist with the design of future monitoring programs.

Follow-up surveys are undertaken to provide information about the nature and direction of any changes and evaluate whether the predictions of the EIA have been adequate. Follow-up surveys are usually not required for exploration unless VECs sensitive to drilling impacts are known to occur within the AOI (e.g. coral reefs). Regular follow-up surveys are, however, required during the production phase when permanent discharges occur. The overall purpose is to provide documented evidence to assess the effectiveness of measures adopted to prevent pollution in the maritime area under consideration.

As the scope of these EIA Guidelines is related to reconnaissance and exploration drilling activities, it therefore mainly regards baseline studies. To enable a comparison of the survey results,

consistency in the survey design such as sampling station layout, reference station selection, sampling methods and analysis, overall quality control, data interpretation and reporting is vital. Key criteria and requirements for the design and undertaking of baseline surveys are provided below.

1.1 Quality Assurance and Quality Control (QA/QC)

Quality assurance and control is an essential part of any environmental monitoring program. Environmental monitoring should only be carried out by contractors accredited for the relevant works for scopes where accreditation is available. Survey contractors should document that they, or any subcontractor (supplier), are accredited according to relevant ISO standards as accreditation is a means of assessing the competence and integrity of the survey contractor.

Sampling, as well as analysis should be conducted by contractors that are accredited through the International Accreditation Forum (IAF) or a national version subject to IAF. It is essential that all personnel participating in the sampling, doing the analysis and reporting the results have gone through training.

Accreditation shall include all aspects of the work from sample collection and analysis to presentation and reporting of the results. All suppliers of analytical services for monitoring programs) must have ISO/IEC 17025:2005 accreditation or an equivalent for the methods they use, whenever an accreditation scheme is available. Suppliers must also document their own quality assurance and control routines. The latest and valid version of the method standards and guidelines must be used, and reference must be made to the year when these standards were established when reporting from monitoring surveys.

All suppliers of services should have a standard QA system implemented, e.g. ISO 9001/9002 or CEMP Guidelines on quality assurance for biological monitoring in the OSPAR area (Agreement 2002-15). Overall quality assurance is the responsibility of the right holder, who delegates the relevant parts to its contractors. For all areas the survey contractor and all its suppliers must demonstrate that they have established quality control to at least ISO 9001/9002 and follow the relevant guidelines for the relevant type of sampling, sample analysis and reporting. The description should include how and how often QA will occur. This should include participation in relevant inter-laboratory (preferably international) comparison exercises, proficiency testing schemes, procedures to ensure the long-term stability of performance, the use of reference materials and appropriate documentation (OSPAR Guidelines, 2017).

Only internationally accredited laboratories should be used for sample analysis. The chemical analysis should be in accordance with international standards and the contractor performing the analysis should participate in proficiency tests. Reference samples should be run together with the samples from the monitoring. An overview of analytical methods and standards for the various samples, sample methods and analysis is provided in IOGP (2012).

The following aspects should be covered by the supplier's quality system:

- How will the samples be verified as representative and of good quality
- A plan for reference sample material (reference samples to be run in the same analytical series as the actual samples)
- Description of chain of custody
- Plan for revision of analytical methods
- Plan for revision of results

- How will QC of reporting be achieved

Relevant scopes for accreditations related to environmental surveys (both laboratories and sampling organizations) are within a range of technical fields, these include e.g. acoustics, geology, chemical analysis, environment, biology, sampling on seabed sediments and sampling seawater (and brackish water).

In general sampling, testing and assessing/interpreting analyzes, but also calibration of measuring equipment are covered in two ISO standards:

1) **ISO / IEC 17025**

Accreditation standard for all types of testing and calibration laboratories. The standard is used to accredit everything from medical laboratories to field calibration of measuring equipment. The standard is also used for accreditation of sampling and interpretation of analysis responses.

2) **ISO / IEC 17043**

ISO / IEC 17043 is a requirement document for the accreditation of organizers of comparative laboratory testing (SLP). SLP is used to ensure analysis results in all types of laboratories.

Furthermore, in the framework of the Barcelona Convention, an Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and related Assessment Criteria (IMAP) has been developed.

Lebanese national guidelines for monitoring of the marine environment may be developed at a later stage by the Ministry of Environment and the Lebanese Petroleum Administration taking into account how a future field specific monitoring program for oil and gas activities can be designed to align with the above-mentioned program.

2 PROCEDURAL ISSUES RELATED TO THE EBS

2.1 Development of the EBS scope of work

The standard procedure for the development of a scope of work for an environmental baseline survey (EBS) as part of an exploration drilling EIA should follow the modalities for submission, review and feedback of EIA documentation as shown in Fig. 2.2 of the EIA Guidelines. Alignment on the particular scope of work for the EBS is usually undertaken as part of scoping.

The accreditation needs stated in Chapter 1.1 of this Appendix likely require the involvement of international service providers for planning and undertaking an offshore environmental survey and analysis of samples. It is, however, recommended to collaborate with Lebanese counterparts to ensure capacity building within Lebanon.

The below outlines the main steps for the development of a EBS scope of work:

- The Proponent undertakes a data gap analysis regarding relevant baseline data as part of its overall scoping exercise for the EIA
- The Proponent submits to the LPA/MOE for review its proposed survey scope of work in line with Appendix C as part of the Scoping Report.
- A stakeholder consultation period of 30 days will apply for the Scoping Report to allow for stakeholder feedback
- Incorporation of relevant stakeholder input into the final Scoping Report including potential implications for the final EBS scope
- Submission of final Scoping Report including the final EBS scope to the LPA/MOE

2.2 EBS report submission

The environmental baseline survey report should describe all relevant procedures and results of the overall survey campaign in accordance with the agreed EBS scope of work. Deviations to the scope should be clearly stated with a rationale for the deviation being provided.

The Proponent submits the EBS report to the LPA for review in line with Fig. 2.2 of the EIA Guidelines. The LPA and the MOE will review the report and either request clarifications on particular topics as applicable or require consideration of the provided survey results in the EIA.

3 BASELINE FOR SEISMIC SURVEYS

Seismic acquisition takes place over a large area and has an even larger area of influence. The area potentially affected by underwater noise from seismic acquisition should be identified by acoustic modelling during the environmental assessment to allow for an evaluation of animal exposure, identification of suitable time windows outside sensitive periods and potential avoidance of sensitive areas. Available data on fish stock in the wider area, fisheries and occurrence of marine mammals and reptiles should be compiled and will constitute the baseline.

During the seismic operations, trained observers on marine fauna or marine mammal observers should record sightings in line with JNCC (2017). The involvement of a fisheries expert onboard the vessel should also be considered.

The deployment of Passive Acoustic Monitoring (PAM) is required if marine mammals are known to occur in the survey area to complement the recordings of the observers during nighttime and periods of poor visibility. Additional techniques such as aerial surveys, night vision, infrared or other could also supplement the observations. See also Chapter 4.7 of this Appendix.

4 BASELINE FOR EXPLORATION DRILLING

Exploration drilling has the potential for physical, chemical and biological impacts on the marine environment predominantly due to discharges to sea (e.g. drilling chemicals, cuttings and cement) and physical impacts from potential anchoring, spudding and cement works at the sea floor. Currents and other physical parameters may result in a wider distribution of contamination. Exploration drilling is temporary with durations from approx. 60 – 120 days per well depending on the drilling depth and strategy. Related onshore impacts are not considered in this Appendix.

In the phase of exploration drilling there is often limited knowledge on the environmental conditions. The baseline survey therefore needs to be designed in such a way that it provides relevant information on the existing environment in the predicted area of influence and a basis for any potential post-project monitoring to ensure comparability between the survey results. Methods for baseline surveys tailored to exploration drilling in open marine environments include sediment sampling and visual surveys.

The purpose of visual surveys is to document the sea floor conditions and assess if the area is made of hard-bottom substrate or vulnerable bottom habitats (e.g. coral reefs), provide a justification for adjusting the sampling plan where relevant and supervise the sampling effort.

Sediment sampling will establish benthic communities and background data for relevant parameters and provide input on the average value of various chemical parameters (i.e. the basis for LSC).

Exploration drilling entails a risk for unplanned events such as a blow-out, which will have much wider impacts. Compilation of primary data for baseline studies will, however, normally not extend to the potential influence of a blow-out scenario. For risk assessments of blow out scenarios, available data from existing studies or databases must be applied.

4.1 Sampling Program Design

The design of a baseline survey related to an exploration drilling program should be submitted to the MOE and LPA in line with Chapter 2.2 considering that a final version is available at a minimum of 2 weeks prior to the start of the sampling cruise.

The program must contain a plan for gathering sediment samples from relevant stations at relevant seasons (i.e. to avoid capturing juveniles) including how these samples will be:

- Sampled
- Analyzed for heavy metals and oil compounds (minimum)
- Analyzed for bottom fauna parameters and indices

In addition to soft-bottom sampling a plan should be provided on how areas with vulnerable bottom habitats (i.e coral reefs) and hard bottom substrate will be surveyed visually, as these areas are not suitable for conventional grab sampling investigations. In such case visual surveys may be required in addition, e.g. by the use of ROV (see section 4.3).

4.1.1 Station Selection

Stations should be selected in a way which allows for the spatial impact of the offshore activity to be detected and to provide a snapshot of the prevailing sea floor conditions within the study area. Ideally, the station pattern for site specific baseline and potential follow-up surveys should be

identical. They should be defined based on bottom topography, sediment characteristics, current conditions and other relevant parameters such as discharge plumes established through dispersion modelling, if available. Areas with high fractions of silt/clay sediments, where contaminants are likely to accumulate, should have particular attention.

Where the spud location is known and the environment is homogenous with respect to sediment type, depth and currents (e.g. in the abyssal plain), and where the aim is to assess possible impacts radiating from a source point, a radial transect station design should be chosen. Bathymetry and metocean data as well as dispersion modelling results, if available, should be used to select stations.

Bottom stations are selected to detect the extent of impact from activity at the fields. These stations should be placed surrounding the spud location as an axis where one of the arms points in the direction of the main current.

If exact placement of the spud location is unknown at the time of the first monitoring, a grid of stations around the expected location may be used. The stations are placed in an axis with increasing distance, typically at 250m, 500m, 1000m and if necessary 2000m. If possible, the nearest station should be closer than 250 m, however due to safety and practicality, this may not be possible. The outermost stations are meant to detect the outer limits of the impact area. Therefore, if the outer station in any direction is contaminated/affected a new station should be established further out in the next round of monitoring.

Each station should be given a unique designation to be consistently used over time. The same designation must be used on maps, in tables and text.

Statistical tools (power analysis) are available to allow an estimation of the number of stations required to detect a predefined change in a measured parameter with a certain confidence over a certain number of consecutive surveys. It is highly recommended that such analysis should be considered in the planning of the surveys.

In order to be able to select representative monitoring and reference stations, the number of stations during a baseline survey should be larger than that expected necessary in subsequent monitoring surveys.

4.1.2 Reference Stations

The baseline survey should include the identification of an area that is not expected to be affected by future oil & gas activities, but with similar conditions as the area investigated in the baseline survey. Stations in such areas serve as reference stations. Reference stations are often also called regional stations, particularly in countries with established offshore monitoring.

It is recommended to establish at least one reference station (representative of the region/area, but not to be influenced by oil and gas activities) which shall be used from year to year both in the baseline survey and for later monitoring surveys of the (expected) field. Results from the reference stations are to be used as reference values for assessing possible effects observed at nearby field-specific stations, once fields are in production.

4.1.3 Survey Timing

To facilitate comparison between the state of the environment prior and after an activity, fieldwork for baseline and potential follow-up monitoring surveys should ideally be carried out in the same season of the year.

Sediment surveys should preferably be carried out in the appropriate season (e.g. spring) in order to avoid problems related to newly settled juveniles of benthic fauna. These recruits may, at times, dominate the fauna numerically, but this must be regarded as transitory as natural mortality after settling may be very high. In case of a survey taking place when juveniles are expected, it is important to consider the issue of juveniles adequately when reporting.

Oil and gas projects may take place in various locations with environments from shallow water with mobile sediments to deep, more stable waters with fine sediments. Monitoring needs to be fit for purpose taking into account local and regional environmental differences and knowledge of predicted impacts.

4.1.4 Survey Vessel Criteria

The survey vessel should comply with descriptions given in ISO 16665:2014. The potential for noise interference of the vessel with PAM should be assessed.

4.2 Sediment Sampling

It is vital that coherent procedures are applied to assess the nature and spatial extent of substances discharged including the assessment of patterns of contamination, the rate and direction of any changes to those patterns, and any effects on macro-benthic community structure. The objective is the verification of predicted impacts at individual locations. Therefore, similar standards and methods have to be applied for baseline and follow-up surveys to obtain comparable data.

Sampling and sample processing in the field should comply with ISO 16665:2014.

Sampling equipment, sample collection as well as treatment and storage of the samples should be in accordance with the CEMP Guidelines for monitoring contaminants in sediments (Agreement 2002-16) and the JAMP Eutrophication Monitoring Guidelines: Benthos (Agreement 2012-12). The JAMP Guidelines for monitoring contaminants in sediments (1997) should also be considered.

In deeper waters (> 500m) or areas with seabed heterogeneity (mixture of rock, stones, gravel and soft sediment) a box corer might be required to achieve the necessary sampling success.

Parameters to be analysed should include those below and follow the procedures/standards as outlined in the OSPAR Guidelines (2017):

Grain size distribution
including weight of each sediment fraction and reporting on cumulative weight percent distribution for each station, median particle diameter, standard deviation, skewness and kurtosis of the grain size distribution.

Total organic carbon (TOC)
Hydrocarbons and organic-phase drilling fluids following the CEMP Guideline Agreement 2002-16 and specifying the extraction procedure so that the results are comparable, use of appropriate certified reference materials (e.g. CRM 103-100 for PAH contaminated soil) and the detection and quantification limits should be calculated according to the guidelines issued by the ACS Committee on Environmental Improvement (1980).

Chemistry

- Total Hydrocarbon Content (THC),
- PAHs,
- NPDs,
- Selected components of organic phase drilling fluids (if used),

- Metals including Ba, Cd, Cr, Pb, Cu Hg and Zn while following the JAMP Guideline Agreement 2002-16.

Biology

Benthic macrofauna with sampling, sample handling and analysis following the JAMP Agreement 2012-2, Technical annex 2 (soft bottom macrozoobenthos), identification of taxonomic name and number of individuals for all species including taxonomic resolution to species level as a rule as far as feasible. The nomenclature should follow the latest international revisions, e.g. the European Register of Marine Species or the World Register of Marine Species (WoRMS). Biomass of each species may have to be determined depending on purpose. As the term macrofauna is used inconsistently across countries, it is recommended to analyse and report on two fractions separately per station (one fraction > 1mm and one with 0.5 – 1mm).

An overview over the number of sediment samples and sub-samples recommended to be taken at different types of stations and for different types of surveys is provided in the Table below (source: adapted after NEA 2015, as amended in 2020).

Analysis parameter	Baseline (and first follow-up) survey	Subsequent follow-up survey	Sample depth	Conservation / sample quantity
TOC/TN	3 samples mixed [a]	3 samples (mixed) from stations where also fauna is sampled	0-5 cm	≤-20°C [b] 100 g
Grain Size	3 samples mixed [a]	3 samples (mixed) from stations where also fauna is sampled	0-5 cm	300 g
Total Hydrocarbons (THC)	3 samples 1 sample 1 sample	3 samples 1 sample 1 sample	0-1 cm 1-3 cm 3-6 cm	≤-20°C [b] 300 g
PAH, NPD	1-2 samples	1-2 samples	0-1 cm	
Organic-phase Drilling Fluids			0-1 cm	≤-20°C[b] 300 g
Metals: Ba [c], Cd, Cr, Cu, Pb, Zn, As, Hg	3 samples	3 samples	0-1 cm	≤-20°C [b] 50 g
Benthic fauna	10 samples	10 samples		10 % formalin[d] Rose Bengal / Eosin

a) Mixed sample from three grab samples collected at each station.
b) As described in EN ISO 5667-19:2004 and EN ISO 16665:2013
c)And/or similar main component in weighting agent (i.e. ilmenite contains Ti)
d) Formalin may be replaced by less harmful fixative fluids when testing of these has been undertaken.

4.2.1 Statistical Analysis

The statistical analyses of the monitoring data will depend on the type and purpose of the investigation. A minimum requirement for the general description of individual parameters and

stations should be that average values are adjoined by summary statistics, such as min., max. and SD or SE. The analyses should follow the OSPAR Guidelines (2017). Consideration should also be given to whether the data consists of different sub-sets, indicating the presence of sub-regions. This can be done by undertaking a principal component analysis (PCA).

4.2.2 Research Cruise Report

During all sampling surveys, a log should be established of the number of successful and unsuccessful sampling attempts at each sampling station, as this may be relevant for future sampling design.

The following conditions of the sediment should be monitored during the survey:

- Visual description of the sediment surface (e.g. empty shells and debris)
- Sediment description and stratification of layers
- Presence of large and/or conspicuous fauna
- Sediment colour (e.g using the Munsell Soil Color Chart System)
- Smell (e.g. H_2S or oil)

During the cruise a thorough report should be kept containing all relevant information on the survey. The cruise report should be written by hand with a pencil, and the use of an eraser prohibited. Any errors should be marked with date and initials and corrected on the side of the erroneous text.

The journal should contain the names and roles of participants, start and end of cruise and vessel name. For each day the weather conditions (including wave height, tidal conditions, wind direction & strength) should be noted. In addition, the start time of a new station, coordinates, equipment used, number of times grab samples were attempted and how many (and why) were unsuccessful and dismissed should be noted. Guidelines for approval or rejection of samples are provided in ISO 16665:2014.

For successful grabs samples the following information should be noted:

	St: ____ Grab sample____/___ Tot. No of fauna glasses:	St: ____ Grab sample____/___ Tot. No of fauna glasses:	St: ____ Grab sample____/___ Tot. No of fauna glasses:
Approved/ not approved			
Sedimentvolume: (cm from top of grab)			
Sampletype (mark correct)	Bio/ chem/ geo	Bio/ chem/ geo	Bio/ chem/ geo
Observed animals:			
Sediment description: (layering, type, color, smell)			
Other:			

4.3 Visual Survey

Visual surveys are an efficient tool to obtain an impression of the sea floor conditions. As a minimum, in hard-bottom areas where conventional sampling equipment cannot be used, or in areas defined as vulnerable or where the presence of vulnerable species or habitats (e.g. coral reefs) is likely, visual surveys may be required.

Deployment of visual observation equipment includes remotely operated vehicles (ROV) or towed observation gear in order to obtain real time video and still picture footage following the EN 16260-2012 standard. Visual surveys undertaken as part of the environmental survey may be used to:

- Supervise sediment sample retrieval
- Document the sea floor conditions along pre-defined transects. Transects should include areas of expected discharge or deposition and areas of heterogeneity in sea floor conditions and biological communities. However, it is recommended that the transects cover the entire survey area to provide a representation of the current sea floor conditions.
- Investigate areas with heterogenous seafloor habitat including vulnerable habitats such as corals, sponge communities (deep water sponge aggregations, see OSPAR 2010a), sea-pen and burrowing megafauna communities (OSPAR 2010b) or established spawning areas
- Assess the potential of cultural heritage finds along the sampling stations and transects chosen

4.4 Passive Acoustic Monitoring (PAM)

Passive acoustic monitoring should be considered to monitor underwater vocalizations of cetaceans as it is increasingly used as a tool for monitoring marine mammals during nighttime and poor visibility conditions. Specialist trained PAM operatives are needed to set up and deploy the equipment and to interpret detected sounds. The restrictions of current PAM systems regarding seals and some cetaceans (e.g. baleen whales and high frequency cetaceans) need to be considered. PAM should be undertaken in line with JNCC (2017).

Caution needs to be taken in the interpretation of the results of PAM recordings to ensure that noise generated by the survey activities have not masked the results.

4.5 Marine Fauna Observations

Marine fauna observations (marine mammals, turtles and sea birds) should be considered using trained MFO observers during daytime, while using caution during the interpretation of the results. MFO observers should be trained marine mammal observers (MMO) in line with JNCC (2017).

4.6 Water Column Sampling

If water column sampling is to be undertaken as part of the baseline survey, sampling equipment, sample collection as well as treatment and storage of samples should be in accordance with the JAMP Guidelines for biological effects monitoring (Agreement 1997-07, Agreement 2008-09).

4.7 Supplementary Survey Techniques

The use of aerial survey techniques such as drones, infrared, night vision or other visual techniques should be considered during the development of the survey scope to complement any MMO or MFO findings during the survey or the undertaking of the project.

Environmental DNA (eDNA) analysis of samples could be considered for assessment of biodiversity and the identification of rare or invasive species, particularly if close to protected areas or sensitive habitats.

Furthermore, zooplankton analysis as well as the CTD profiling could provide beneficial insights.

5 DATA INTERPRETATION AND REPORTING

Reporting should be part of the surveying contractor's accreditation. Personnel involved in reporting of results must have the necessary skills and training. Reports must be a part of the overall quality control described by the accreditation (ISO/IEC 17025).

In accordance with the EIA Guidelines, all baseline data acquired for the project should be provided in native files to LPA and MOE together with any georeferenced spatial information such as coordinates of sampling points, transects, etc. This also includes video footage, still pictures and any other data collected.

It is important that the survey data and results are reported in a uniform way and are interpreted in a consistent manner. Data reporting should be in accordance with OSPAR requirements and should be accompanied by information on the methods used, the detection limits, the results of analysis of certified reference materials and any other comments or information relevant to the assessment of the data. In order to establish acceptability of the data, participation in any relevant intercalibration exercises should be reported, where appropriate, together with the dates and results of such exercises, as well as summary information relating to recent control charts, including dates, sample sizes, means and standard deviations.

In addition to internal routines to ensure quality and control with regards to data interpretation and reporting, the contractor must have a QA-system that complies with the standards described in Chapter 1.1 of this Appendix. The overall QA system including quality assurance of the various analyses, both in terms of type and frequency, should be presented as part of the method description in the report. The report should include a description on how reference samples were handled. The analyses of station samples should be verified against reference samples run in the same test series, and the results from the reference samples should be part of result interpretation in the report. When reporting the results of replicate samples, it is important to fully describe the replication procedure.

A consistent color coding of the results should be undertaken to visualize exceedances, etc. The issue of invasive species through the Suez channel should be addressed in the data interpretation. In case open source software is planned to be used, data confidentiality issues need to be considered.

6 REFERENCES

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APPENDIX D. ENVIRONMENTAL MANAGEMENT PLAN (EMP) FOR RECONNAISSANCE AND EXPLORATION DRILLING

Introduction

The EIA Decree (Decree No. 8633) requires that an EMP is submitted as part of the EIA Report (Article 8 and Annex 8 of the EIA Decree) and the Proponent is required to develop, implement and follow up the EMP during all phases of the project (Article 11 of the EIA Decree) including reconnaissance and exploration drilling. According to the same Article, the MOE will monitor the enforcement of the EMP(s).

The objective of the EMP is to ensure that:

- Mitigation measures stated within the EIA Report will be implemented and information is provided how this will be achieved
- The Proponent has full responsibility of this implementation (through contractor management or other means)
- Compliance with legal requirements, the EIA and corporate policies is ensured
- Monitoring of mitigation implementation is realistic and feasible
- Reporting requirements to authorities are clearly defined

Overall, the EMP should consist of two sets:

- An EMP framework to inform how the Proponent intends to manage the various work packages/contractors involved in the project and any own project activities. The framework should provide a description of the respective roles and responsibilities as well as the interface management, i.e. the relationship between the Proponent and contractors involved. It should also describe measures to ensure adequate contractor performance including inspections and audits.
- EMP instructions (or contractor control plans) informing contractors of what is expected for their particular work package based on the mitigation measures of the EIA Report.

It is expected that the EMP is part of the ToR for the relevant work packages and thus shared with bidders as this will ensure that EMP activities are adequately resourced by the chosen contractors.

Contractors are expected to prepare their own implementation plans to document how they will comply with the above.

The principal tool that will be employed by the Proponent to coordinate and review the environmental performance of its project activities is the Environmental Management System (EMS) as required by Article 9 of the PAR. The EMP(s) for reconnaissance and exploration drilling are the links between the EMS and topic-based specific management plans (sub-plans). This appendix presents guidance on the minimum content of sub-plans expected to be included in the EMP[9], as outlined in Section 3.3.7.64.2.7.6.

[9] EMP includes environmental, socio-economic and health aspects, so is synonymous with environmental and social management plan (ESMP) and environmental, social and health management plan (ESHMP), for the purposes of the Guidelines.

Sub-plans

The number and content of the sub-plans will vary depending on the activities being undertaken, the location of activities and whether sensitive receptors/VECs could be affected. The EMS may also refer to other plans commonly required to comply with legal requirements, GIIP or best available practices.

The commitments made in the EIA Report should be clearly identified and tracked through to the EMP e.g. by use of commitment numbers and inclusion of a commitment register in the EIA Report. The following is a typical list of sub-plans to be integrated into the EMP for reconnaissance and exploration drilling:

- Stakeholder Management Plan
- Social Management Plan
- Pollution Prevention Plan (including chemical management as well as energy efficiency and GHG emissions)
- Waste Management Plan
- Oil Spill Contingency Plan (as part of overall emergency response planning)
- Environmental Monitoring Plan (EMoP)

If applicable, it could also be relevant to develop a Biodiversity Action Plan.

The following are examples on other plans developed by other disciplines which should be considered as references in the EMP as applicable:

- NORM Management Plan
- Emergency Response Plan
- Blowout Contingency Plan
- Local Content and Procurement Plan

The description below outlines the relevance and rationale behind the sub-plans and lists the key focus areas to be considered as a minimum.

Stakeholder Management Plan

The Stakeholder Management Plan is relevant for reconnaissance and exploration drilling.

The minimum issues to be covered by the sub-plan include:

- SEP
- Grievance mechanism
- Responsibilities and organisational aspects.

Social Management Plan

The Social Management Plan is relevant for reconnaissance and exploration drilling.

A wide range of aspects defines the co-existence between the oil and gas activities and the public or private sector. These are covered by the socio-cultural and socio-economic parts of the EIA (or by a specific Social Management Plan if carried out). The relevant aspects need to be followed up through the Social Management Plan. Management of pollution is covered by a separate sub – plan of the EMP.

The minimum list of issues to be covered by the Social Management Plan include:

- Community health, safety and security e.g. risk of traffic accidents and access to public services
- Relations to local communities e.g. expectation management, influx management, land/harbour conflicts and aspects with reference to the Local Content and Procurement Plan
- Fisheries co-existence planning as operations may temporarily influence directly or indirectly on fishing activities which are small-scale and largely artisanal by vessels with limited navigational and safety equipment. Local fisheries add important value to the economy and daily life in Lebanon. Data related to distribution of fish species are limited today. Planning should include:
  - Access to relevant baseline data and understanding of possible conflict situations
  - Establishment and maintenance of effective safety exclusion zones around the operations
  - Communication with and notification of the fisheries, link to the Stakeholder Management Plan
  - Navigation restrictions and direct control of fishery activities in the influence areas of operations
  - Compensation for direct loss of access to fishing areas and damage to fishing gear with reduction in fishing revenues – link to livelihood restoration and compensation planning
  - Disclosure and implementation of the Grievance Mechanisms for the activities and effective investigation of any grievances – link to Stakeholder Management Plan
  - Compliance with international regulations for collision avoidance
  - Measures to avoid spills, hazards, etc. and connected response – link to Emergency Preparedness and Response Plan and Oil Spill Contingency Plan
  - Involvement of fisheries liaison officers
  - Potential involvement of fisheries in oil spill response preparedness
- Marine users co-existence planning (other than fisheries) as the presence of seismic survey vessels, drilling rigs and support vessels may interfere with other marine users by the risk of collisions and restrictions on access to marine zones. Planning should include:
  - Access to relevant baseline data and understanding of possible conflict situations
  - Establishment and maintenance of effective safety exclusion zones around the operations
  - Navigational aids to be installed on support vessels, survey vessels and drilling rigs
  - Navigational restrictions and direct control of marine traffic in the influence areas of operations
  - General communication with marine authorities and notification of marine users - link to the Stakeholder Management Plan
  - Disclosure and implementation of the Grievance Mechanisms for the activities and effective investigation of any grievances – link to the Stakeholder Management Plan
  - Notification of schedules and location of activities when there will be significant increases in vessel movements and drilling operations - link to Stakeholder Management Plan

- Compliance with international regulations for collision avoidance

- Livelihood restoration and compensation planning
  - Cultural heritage
    Protection of sites and features identified during the baseline investigations, procedures for "chance finds" during the operations and communication and reporting processes with the Ministry of Culture
  - The grievance mechanism developed as part of the stakeholder management plan should also be applicable during social management
  - Responsibilities and organisational aspects.

Pollution Prevention Plan

The Pollution Prevention Plan is relevant for reconnaissance and exploration drilling.

The plan should aim at controlling and minimizing discharges to sea and land as well as emissions to air from all sources including waste water streams and combustion of engines and burners. It should also describe how compliance with the Lebanese chemical management policy/plan and national legislation will be achieved. Furthermore, the plan should describe the means to prevent hazards and health injuries from storage and uses of chemicals, and to prevent environmental impacts from discharges of chemicals (used and unused) and disposal of chemicals (used and unused). The minimum list of issues to be covered by the sub-plan should include the following.

Pollution prevention during seismic acquisition:

- Description of compliance with IMO/MARPOL standards will, e.g. with regard to sulphur content of diesel and food waste disposal as well as compliance with specific national/regional requirements for the area of seismic activities
- Description of how discharges of bilge water and black water will comply with MARPOL standards
- Waste management according to the Waste Management Plan
- Relevant measures to minimize disturbance of marine mammals (underwater noise)
- Involvement of trained marine mammal observers
- Responsibilities and organisational aspects

Pollution prevention during exploration drilling

- Description of how diesel engines and motors for drilling will be operated to achieve energy efficiency (ref. Energy Efficiency and GHG Emissions Planning) and how any relevant national standards for emissions to air will be complied with
- Description of compliance with IMO/MARPOL standards, e.g. with regard to sulphur content of diesel and food waste disposal as well as compliance with specific national/regional requirements for the area of exploration drilling activities
- Description of how discharges of bilge water and black water and slops will comply with MARPOL standards

- Description of how well testing will be carried out (if applicable) in order to achieve the lowest possible environmental impact (air and water) by using efficient burners and minimising duration of well tests and how releases to air and water will be kept within planned and communicated quantities
- Description of how routing of deck spill to the drainage system will be operated so that discharges to water are minimised
- Waste management according to the Waste Management Plan
- Description of measures to be taken to avoid firefighting systems are not released unnecessarily during fire drills
- Description of cement management (slurry and excess cement management)
- Minimum disturbance of wildlife from rig lighting
- Adequate chemical management (relevant for exploration drilling) to prevent pollution including:
  - Transportation and storage plan for secure storage to avoid hazards and risk for human health and avoidance of chemical spill
  - The labelling system, safety data sheets and the availability of ecotox data provided from internationally recognized test methods and accredited laboratories
  - The operator's approach to chemical assessment and to ensure selection of the least hazardous chemicals, including plan for substitution of hazardous chemicals with less hazardous chemicals
  - Records and documentation for consumed chemicals, discharged chemicals and waste disposal of used/unused chemicals
  - Methods to avoid spills during offshore loading and offloading of chemicals
  - Chemical handling and use, including consideration of personal protective equipment, emergency equipment, chemical spillage incidents, information, training and organizational aspects
- Planning for energy efficiency and GHG emissions (relevant for exploration drilling) to ensure energy efficient operations to minimize emissions of greenhouse gases. The planning should include:
  - Measures applied to ensure energy efficient operations, including reference to energy management system implemented
  - Ensuring adequate emission factors being used for calculation of released GHG, (ref: IPCC Guidelines for National Greenhouse Gas Inventories (Energy)
- Responsibilities and organisational aspects

Waste Management Plan

The Waste Management Plan is relevant for reconnaissance and exploration drilling.

The purpose of the plan is to describe how waste will be managed in accordance with the Lebanese waste policy, relevant national regulations and international conventions and to prevent hazards, health injuries and environmental negative impact.

The minimum list of issues to be covered by the sub-plan should be aligned with the latest SEA policy recommendations and should include:

- The approach to waste management hierarchy
- Waste streams, segregation and storage, transport, destination/receiver and disposal methods for type of wastes
- Waste records, tracking systems and documentation (including documentation if waste is exported)
- Management of NORM in waste streams
- Management of hazardous and special waste
- Drill fluids, drill cuttings and cement management should be aligned with the latest SEA policy recommendations and the waste policy and should address:
  - Systems for mud recovery
  - Management of cuttings drilled with water based drilling fluids
  - Management of cuttings drilled with oil based/synthetic fluids
  - Management of cement waste
  - Management of slop and spill oils
  - Management of used and residual drilling fluids
- Responsibilities and organisational aspects.

Emergency Response Plan

The Emergency Response Plan (ERP) is relevant for reconnaissance and exploration drilling and is part of a wider response framework based on the guiding principles of incident prevention, preparedness, rapid and coordinated response and restoration.

In accordance with the OPRL the complete ERP is a separate delivery from the Proponent to the LPA and is not expected to be a part of the EIA Report. However, within the EMP, an overview of topics covered in the full Emergency Response Plan (ERP) with a focus on arrangements for emergency preparedness and response for environmental accidents should be provided.

These environmental arrangements for emergencies should include contingency plans for various scenarios such as spills from blow-outs, vessel collisions or other.

The key objective is clarity on command, control and communications, cooperation and integration of responding organizations scaled to the complexity of incidents identified through risk assessments. It requires a sustained and visible commitment from management, a supporting organisational policy, the availability of personnel for training and exercises as well as resources for large-scale exercises.

Oil Spill Contingency Plan

The Oil Spill Contingency Plan (OSCP) is relevant for exploration drilling.

The Oil Spill Contingency Plan is a sub plan of the ERP, mainly based on the Blowout Contingency Plan which addresses the potential loss of well integrity/control, a blow-out, which may be regarded the most serious possible offshore incident leading to a release of large amounts of oil.

The minimum list of issues to be covered by the sub-plan include:

- Description of operations, oil characteristics, current and wind data, water depths and logistical support arrangements
- Risk assessment with frequencies, size of spills and definition and assessment of realistic scenarios, oil spill trajectory modelling, etc.
- Sensitivity mapping of marine environmental habitats, vulnerable species and socioeconomic resources that could be affected by oil spills
- Shoreline protection and clean-up strategies
- Measures to rehabilitate wildlife such as seabirds, marine mammals and turtles
- Response strategies that mitigate environmental impacts to the greatest extent practicable including times for deployment of combat equipment on local, national and international levels
- Specific priorities and actions taken in different pollution scenarios, combat methods, surveillance, etc.
- Strategies for containment and recovery of floating oil, including use of mechanical recovery equipment
- The potential use of chemical dispersants to be approved by the MOE
- Stakeholder engagement and grievance management with reference to the Stakeholder Management Plan
- Cooperative measures with government agencies, notification process and procedures
- Arrangements for the use of support from other organisations during an oil spill
- Alarm and communication systems
- Type, capacity and location of available oil spill combat equipment and other resources
- Capacity building, training and exercises
- Reporting procedures
- Organization, responsibilities and procedures for initiation of actions

While preparing the OSCP, the Proponent is advised to consult with the Lebanese National Oil Spill Contingency Plan (NOSCP) for guidance. However, the OSCP should acknowledge that the Proponent has full responsibility to manage and respond to an oil spill from its exploration drilling activities while the role of the government entities is mainly to facilitate, coordinate and support.

Environmental Monitoring Plan (EMoP)

The Environmental Monitoring Plan is relevant for reconnaissance and exploration drilling.

The EMoP is a requirement of EIA Decree Annex 8. The purpose of the monitoring plan is to ensure that the regulatory requirements and the commitments made by the Proponent in the EIA Report

are met, to verify predictions made in the EIA, to provide early warning of potential environmental risk and to ensure a factual basis for preparing reports to the authorities.

The plan would typically comprise, as appropriate, inspections, environmental (receptor) monitoring, compliance monitoring, internal audits and procedures for internal and external reporting. The plan should define:

- The key parameters that will be monitored and reported to the authorities
- Methods of monitoring (e.g. measurements, calculations, observations and visual surveys)
- The frequency of inspections, monitoring and audits based on the project risks

The minimum list of issues to be covered by the sub-plan for seismic operations include (See Section 3.3.7.6):

- Stakeholder communication (fisheries and other marine users)
- Reporting (to Authorities), e.g. on MMO observations, important project milestones and relevant parameters
- Total emissions to air of CO2, NOx, SO2 (diesel engines)
- Waste generation and disposal methods, quantity per category
- Discharges to sea
- Incidental discharges and actions taken to combat spill
- Reports of visual surveys and observations (e.g. marine mammals and turtle observations, according to JNCC, 2017)
- Any deviations from EMP
- Responsibilities and organisational aspects

The minimum issues to be covered by the sub-plan for exploration drilling include (See Section 4.2.7.6):

- Stakeholder communications (fisheries and other marine users)
- Environmental monitoring during and after exploration drilling, including selection of relevant KPIs
- Quantity of drilling fluids used, drilling fluid and cuttings generated and disposal methods
- Discharges to sea of drainage water, bilge, slops and sewage waters (volumes and oil content)
- Other waste streams (volumes and disposal methods)
- Incidental discharges and actions taken to combat spill
- Chemicals used and discharged
- Emissions of CO2, NOx and SO2 and GHGs from energy generation
- Quantities of hydrocarbons burned during well tests and resulting emissions to air and water (oil droplets)
- End of Activity reporting (to Authorities), e.g. on important project milestones (spud date, end date, operational window, site abandonment, etc.), topics/parameters/KPIs and reporting timeline (see Section 4.2.7.6 for details)

- Post-operational aspects (if relevant to verify predicted impact on sea bed resources)
- Any deviations from the EMP
- Responsibilities and organisational aspects

Biodiversity Action Plan (If applicable)

A Biodiversity Action Plan could be relevant for exploration drilling.

Marine and coastal areas of Lebanon contain important biodiversity of conservation interest such as threatened species and habitats. Several sites are formally designated as being of particular protection value. Species of particular interest include e.g. marine turtles and marine mammals. Critical habitats may exist in intertidal, subtidal and deep waters.

The minimum list of issues to be covered by the sub-plan includes:

- Understanding and dealing with the complex link between compiled baseline data, the assessed impacts on biodiversity and the mitigation measures for effective monitoring during operations
- Mitigation options based on the hierarchy avoid – reduce – remedy – compensate (In kind or through other means such as offsets)
- Relevant indicators for monitoring
- Invasive species management
- Responsibilities and organisational aspects

وزارة الشباب والرياضة

قرار رقم ٢٦١/١/٢٠٢٣
ترخيص جمعية رياضية بإسم
«نادي القرعون للدراجات الهوائية»

إن وزير الشباب والرياضة

بناء على المرسوم رقم ٨٣٧٦ تاريخ ٢٠٢١/٩/١٠ (تشكيل الحكومة)

بناء على القانون رقم ٢٠٠٠/٢٤٧ تاريخ ٢٠٠٠/٨/٧ (دمج وإلغاء وإنشاء وزارات ومجالس)

بناء على القانون رقم ٦٢٩ تاريخ ٢٠٠٤/١١/٢٠ (تنظيم وزارة الشباب والرياضة)

بناء على المرسوم رقم ٤٤٨١ تاريخ ٢٠١٦/١٠/٢٧ (تنظيم الحركة الرياضية والشبابية الكشفية)

بناء على القرار رقم ٢٠٠٧/١/٩٠ تاريخ ٢٠٠٧/٧/٢٦ (تحديد الشروط الفنية والخاصة للجمعيات الرياضية والشبابية والكشفية واتحاداتها والجمعيات الرياضية لذوي الاحتياجات الخاصة واتحادها)

بناء على الطلب المقدم من الهيئة التأسيسية للجمعية برقم ١٧٤٣/د تاريخ ٢٠٢٢/١١/١٧

بناء على موافقة وزارة الداخلية والبلديات بكتابها عدد ١٨٣٤٦ تاريخ ٢٠٢٣/٥/٢١

بناء على تقرير الكشف الميداني على منشآت الجمعية بتاريخ ٢٠٢٣/٦/١١

بناء على موافقة مصلحة الرياضة

بناء على المذكرة الإدارية رقم ٢٠٢٢/١/٥ تاريخ ٢٠٢٢/١٢/٢٧ (تنظيم سير المعاملات في الوزارة بعد شغور موقع مدير عام الشباب والرياضة)

يقرر ما يلي:

المادة الأولى: يرخص بتأسيس جمعية رياضية بإسم: **«نادي القرعون للدراجات الهوائية»**

مركزها: **القرعون**، قضاء: **البقاع الغربي**، محافظة: **البقاع**.

لمزاولة الالعاب التالية: **الدراجات الهوائية ـ التنس والميني فوتبول**.

المادة الثانية: تتألف الهيئة التأسيسية للجمعية من السادة: محمد قاسم طريف، اليسار محمد ابراهيم، احمد محمد عسكر ميريان كلوديلينا ايزاسيو بنيتيزفلازكيز، غسان عبدو ابو فرد، ميشال ملحم سلوم، محمد قاسم خرفان، رامي احمد العفي، سليمان عمر عميص.

وتتولى مهام الهيئة الادارية لمدة لا تزيد عن