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MASCARENE PLATEAU BILL 2023*(Bill No. 6 of 2023)***EXPLANATORY STATEMENT ON THE OBJECTS OF AND
REASONS FOR THE BILL**

The Joint Management Area (JMA) is an Extended Continental Shelf (ECS) area of about 396 000 km² of seabed and subsoil, of which Seychelles and Mauritius share joint jurisdiction under the Treaties concerning the Joint Jurisdiction and Joint Management Area of the Extended Continental Shelf in the Mascarene Plateau Region signed in 2012, between the Republic of Seychelles and the Republic of Mauritius.

Under the first Treaty, the two states established the outer limits of the extended continental shelf in order to provide for its recognition under the respective national laws and for the purposes of international law. They also agreed to exercise sovereign rights jointly for the purpose of exploring the continental shelf and exploiting its natural resources. This is reflected in the relevant provisions of the 1982 United Nations Convention on the Law of the Sea (UNCLOS, which provides that a coastal State has exclusive sovereign rights over areas of continental shelf extending beyond the limits of the Exclusive Economic Zone, but in respect only of the exploration and exploitation of the mineral and other non-living resources of the seabed and subsoil (such as oil, gas and other hydrocarbons), together with sedentary marine living organisms.

The second Treaty, which has a lifespan of 30 years established the Joint Management Area (JMA) and provided an institutional and regulatory framework for its management, including the conservation, development and exploitation of its natural resources. The treaty is unique and is the first of its kind as it makes provisions for the joint management of the largest area of maritime space in the world that is subject to joint management.

The objects of this Bill is to domesticate the Treaties concerning the Joint Management Area of the Extended Continental Shelf in the Mascarene

Plateau Region signed in 2012, between the Republic of Seychelles and the Republic of Mauritius, and for the matters necessary and incidental thereto, which will, amongst other things —

- (a) sets out the Joint Management Area (JMA) established in respect of the Joint Zone described in Article 2 of the Treaty Concerning the Joint Exercise of Sovereign Rights over the Continental Shelf in the Mascarene Plateau Region, ratified on 13 March 2012;
- (b) provides for the establishment of the Designated Authority by the Joint Commission;
- (c) domesticates the following Codes and Annexes —
 - (i) The Joint Fiscal and Taxation Code, 2022;
 - (ii) Joint Management Area Mascarene Plateau Region (Environmental Code of Practice);
 - (iii) Marine Scientific Research Code;
 - (v) Geographical coordinates delineating the Seychelles-Mauritius Joint Zone.

The enactment of the Act will ensure effective management and regulation of the Joint Zone, its natural resources, the environment.

Dated this 26th day of May, 2023.

**JEAN-FRANÇOIS FERRARI
MINISTER FOR FISHERIES AND
THE BLUE ECONOMY**

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MASCARENE PLATEAU BILL 2023

(Bill No. 6 of 2023)



A BILL FOR

AN ACT TO ESTABLISH A THREE-TIERED JOINT ADMINISTRATIVE STRUCTURE CONSISTING OF A MINISTERIAL COUNCIL, A JOINT COMMISSION AND A DESIGNATED AUTHORITY TO GIVE EFFECT TO THE TREATY ON THE JOINT MANAGEMENT AREA OF THE EXTENDED CONTINENTAL SHELF IN THE MASCARENE PLATEAU REGION, AND FOR THE MATTERS NECESSARY AND INCIDENTAL THERETO.

ENACTED by the President and the National Assembly.

PART A

**TREATY CONCERNING THE JOINT MANAGEMENT OF THE
CONTINENTAL SHELF IN THE MASCARENE PLATEAU REGION**

PART I - PRELIMINARY

Citation

1. This Act may be cited as the Mascarene Plateau Act 2023.

Commencement

2. This Act shall enter into force on such date as the President may, by notice published in the *Gazette*, appoint.

Interpretation

3. In this Act, unless context otherwise requires —

“Designated Authority” means the Authority established in accordance with Article 4 of the Treaty;

“bioprospecting” means the examination of biological resources for features including but not limited to chemical compounds, genes and their products and physical properties that may be of value for commercial development;

“Commission” means the Joint Commission established under Article 4 of the Treaty;

“continental shelf” has the meaning contained in Article 76 of the Convention;

“contractor” means a corporation, company or other legal entity or entities with limited liability that enter into a contract with the Designated Authority and which are duly regulated;

“Convention” means the United Nations Convention on the Law of the Sea done at Montego Bay on 10 December 1982;

“criminal law” means any law in force in the territory of either of the Contracting Parties, whether substantive or procedural, that makes provision for, or in relation to offences, or for or In relation to the investigation or prosecution of offences or the punishment of offenders, including the carrying out of a penalty imposed by a court. For this purpose, “investigation” includes entry to an installation or structure in the JMA, the exercise of powers of search and questioning and the apprehension of a suspected offender;

“Council” means the Ministerial Council established in Article 4 of the Treaty;

“initially processed” means processing of petroleum to a point where it is ready for off- take from the production facility and may include such processes as the removal of water, volatiles and other impurities;

“JMA” means the Joint Management Area established in Article 3 of the Treaty;

“minerals” means any naturally occurring element, compound or substance, amorphous or crystalline (including liquid crystalline compounds), formed through geological or biogeochemical processes and any naturally occurring mixture of substances, including in the form of coal, clay, evaporates, gravel, limestone, oil-shale, sand, shale, rock, and polymetallic nodules;

“natural resources” means the mineral, petroleum and other non-living resources of the seabed and subsoil of the continental shelf together with living organisms belonging to sedentary species that are at the harvestable stage either immobile on or under the seabed or are unable to move except in constant physical contact with the seabed or subsoil;

“natural resource activities” means all activities authorised or contemplated under a contract, permit or licence that are undertaken to explore and exploit natural resources in the JMA including but not limited to development, initial processing, harvesting, production, transportation and marketing, as well as the planning and preparation for such activities;

“natural resource codes” means codes referred to in Article 8 of the Treaty;

“natural resources project” means any natural resource activity taking place with the approval of the Designated Authority in a specified area of the JMA;

“petroleum” means any naturally occurring hydrocarbon, whether in a gaseous, liquid, or solid state and any naturally occurring mixture of hydrocarbons, whether in a gaseous, liquid or solid state, together with other substances produced in association with such hydrocarbons, and includes any petroleum that has been returned to a reservoir;

“petroleum produced” means initially processed petroleum extracted from a reservoir through petroleum activities;

“reservoir” means an accumulation of petroleum in a geological unit limited by rock, water or other substances without pressure communication through liquid or gas to another accumulation of petroleum;

“Taxation Code” means the Code referred to in Article 6 of the Treaty;

“Treaty” means the Treaty Concerning the Joint Management of the Continental Shelf in the Mascarene Plateau Region, including Annexes A-D and any Annex that may subsequently be agreed by the Contracting Parties to form a part of the Treaty.

Preamble

4. In giving effect to the Treaty the contracting parties shall be guided by the following principles —

SEEKING to promote the sustainable and long-term economic and social development of their respective small island countries for the benefit of present and future generations;

COMMITTED to maintaining, renewing and further strengthening the mutual respect, goodwill, friendship and co-operation between their two countries;

ACKNOWLEDGING the existence of an overlapping area of continental shelf extending beyond the Exclusive Economic Zone

boundaries established by their two countries under the Treaty between the Government of the Republic of Mauritius and the Government of the Republic of Seychelles on the Delimitation of the Exclusive Economic Zone between the two States dated 29 July 2008;

RECALLING that both countries co-operated on the basis of the Treaty between the Government of the Republic of Seychelles and the Government of the Republic of Mauritius on the Framework for a Joint Submission to the United Nations Commission on the Limits of the Continental Shelf dated 18 September 2008, as subsequently amended, to lodge on 1 December 2008 the Joint Submission to the United Nations Commission on the Limits of the Continental Shelf („the Commission“) concerning the Mascarene Plateau region ("Joint Submission") under Article 76, paragraph 8 of the United Nations Convention on the Law of the Sea done at Montego Bay on 10 December 1982 ("the Convention");

RECALLING ALSO on 30 March 2011, the Commission adopted recommendations confirming the entitlement of their two countries to the area of continental shelf as contained in the Commission document entitled Recommendations of the Commission on the Limits of the Continental Shelf in regard to the Joint Submission made by Mauritius and Seychelles in respect of the Mascarene Plateau Region on 1 December 2008;

CONSCIOUS that the Convention provides in Article 83 that the delimitation of the continental shelf between States with opposite coasts shall be effected by agreement on the basis of international law in order to achieve an equitable solution and, in the absence of delimitation, that States shall make every effort in a spirit of understanding and co-operation to enter into provisional arrangements of a practical nature which do not prejudice a final determination of the extended continental shelf delimitation;

RECOGNISING the importance of providing an equitable and co-operative legal basis for the exercise by their two countries of their sovereign rights and jurisdiction over the continental shelf in

the Mascarene Plateau Region in accordance with international law;

REAFFIRMING the Treaty Concerning the Joint Exercise of Sovereign Rights over the Continental Shelf in the Mascarene Plateau Region of 13 March 2012, under which the Contracting Parties established the outer limits of the continental shelf in the Mascarene Plateau Region and agreed to exercise sovereign rights jointly for the purpose of exploring the continental shelf and exploiting its natural resources;

MINDFUL of the importance of jointly managing the natural resources of the continental shelf in the Mascarene Plateau Region in a manner that is sustainable and consistent with the precautionary principle and the protection of the marine environment and the biological diversity of the continental shelf;

DESIRING to enter into an international agreement to provide an effective and equitable framework to govern the joint management of the continental shelf in the Mascarene Plateau Region;

Treaty without Prejudice

5. Treaty without Prejudice —

- (a) The Treaty shall give effect to international law as reflected in the Convention which under Article 83 requires States with opposite or adjacent coasts to make every effort to enter into provisional arrangements of a practical nature pending agreement on the final delimitation of the continental shelf between them in a manner consistent with international law. The Treaty shall adhere to such obligation.
- (b) Nothing contained in the Treaty, and no act taking place while the Treaty is in force, shall be interpreted as prejudicing or affecting the legal position or rights of the Contracting Parties concerning their respective continental shelf entitlements or the delimitation of the continental shelf.

PART II - THE JOINT MANAGEMENT AREA

Joint Management Area

6.(1) The Joint Management Area (JMA) is established in respect of the Joint Zone described in Article 2 of the Treaty Concerning the Joint Exercise of Sovereign Rights over the Continental Shelf in the Mascarene Plateau Region, done on 13 March 2012 and as depicted in the map at Annex A.

(2) The Contracting Parties shall jointly control, manage and facilitate the exploration of the continental shelf within the JMA and the conservation, development and exploitation of its natural resources.

(3) Natural resource activities in the JMA shall be carried out under the direction of the Designated Authority, by such means as it may determine in accordance with the Treaty, including where appropriate through the issue of licences or pursuant to contracts between the Authority and a contractor. This provision shall also apply to the successors or assignees of such contractors.

(4) The Contracting Parties shall each make it an offence under their respective national laws for any person to conduct resource activities in the JMA otherwise than in accordance with the Treaty.

PART III - INSTITUTIONAL AND REGULATORY ARRANGEMENTS

Regulatory Bodies

7. A three-tiered joint administrative structure consisting of a Ministerial Council, a Joint Commission and a Designated Authority, is established.

Ministerial Council

8.(1) A Ministerial Council for the JMA is hereby established. The Ministerial Council shall consist of an equal number of Ministers designated by the Contracting Parties.

(2) The Ministerial Council shall consider any matter relating to the

operation of the Treaty that is referred to it by either of the Contracting Parties. It shall also consider any matter referred to under sub-paragraph (c) (iii).

(3) The Ministerial Council shall meet at the request of either Contracting Party or at the request of the Commission.

(4) All decisions of the Ministerial Council shall be adopted by consensus. In the event the Council is unable to resolve a matter, either of the Contracting Parties may invoke the dispute resolution procedure provided under Article 21.

(5) No decision of the Ministerial Council shall be valid unless it is recorded in writing and signed by at least one member from each Contracting Party.

(6) The Ministerial Council shall establish its own procedures, including those in relation to taking decisions out of session and for conducting meetings by means of telephonic and electronic communication.

Joint Commission

9.(1) The Joint Commission shall consist of an equal number of commissioners appointed by the Contracting Parties. The Joint Commission shall establish policies and regulations relating to petroleum and other natural resource activities in the JMA and shall oversee the work of the Authority.

(2) A non-exhaustive list of more detailed powers and functions of the Joint Commission is set out in Annex C. This list may be amended from time to time as necessary.

(3) The Joint Commission may at any time refer a matter to the Ministerial Council for resolution.

(4) The Joint Commission shall meet at least once a year in the Contracting Parties on an alternate basis, or otherwise as agreed, and each meeting shall be co-chaired.

(5) Decisions of the Joint Commission shall be made by consensus.

Designated Authority

10.(1) The Joint Commission shall establish the Designated Authority (“Authority”).

(2) The Authority shall have juridical personality and such legal capacities under the law of the Contracting Parties as are necessary for the exercise of its powers and the performance of its functions. It shall have the capacity to contract, to acquire and dispose of movable and immovable property and to institute and be party to legal proceedings.

(3) The Authority shall be responsible to the Joint Commission and shall carry on the day-to-day regulation and management of natural resource activities in the JMA.

(4) A non-exhaustive list of more detailed powers and functions of the Authority is contained in Annex D. The Annexes to the Treaty may identify other additional powers and functions of the Authority. The Authority also has such other powers and functions as may be conferred upon it by the Commission.

(5) The Authority shall be financed on an equal basis by the Contracting Parties, including eventually through the remittance of fees collected under natural resource codes.

(6) The Authority shall be exempt from —

- (a) income tax or business tax, as the case may be; and
- (b) customs duties, excise tax, Value Added Tax (VAT), levy and other similar taxes on imports for official use, imposed under the law in force in the territory of each of the Contracting Parties, as well as any identical or substantially similar taxes that are imposed after the date of signature of the Treaty in addition to, or in place of, the existing taxes.

Personnel of the Authority

11.(1) The personnel of the Authority shall —

- (a) be subject to taxation in the Contracting Party of which they are a national and in accordance with the tax law of that Contracting Party in respect of salaries, allowances and other payments made to them by the Authority in connection with their employment with the Authority. For the purposes of this paragraph the term "national" includes a resident of either Contracting Party as defined in the income tax law of that Contracting Party; and
- (b) at the time of the first taking up the post with the Authority located in either of the Contracting Parties in which they are not resident, be exempt from customs duties, excise tax, VAT, levy and other similar taxes and other such charges (except payments for services) in respect of imports of furniture and other household and personal effects including one motor vehicle in their ownership or possession or already ordered by them and intended for their personal use or for their establishment, subject to terms and conditions established by the Joint Commission. Such goods shall be imported within six months of an officer's first entry but in exceptional circumstances an extension of time shall be granted by the Contracting Parties respectively. Goods that have been acquired or imported by officers and to which exemptions under this sub-paragraph apply shall not be given away, sold, lent or hired out, or otherwise disposed of except under conditions agreed in advance depending on in which country the officer is located.

(2) No member of the Ministerial Council, Joint Commission and personnel of the Authority shall have any financial or personal interest in any natural resource project in the JMA.

Sharing of Revenue

12.(1) The Contracting Parties shall share revenue received in respect of natural resource activities carried out in the JMA equally, whereby fifty (50) per cent of revenue received shall be remitted to Mauritius and fifty (50) per cent of revenue received shall be remitted to Seychelles.

(2) To the extent that fees referred to in Article 4(d)(v) and other income are inadequate to cover the expenditure of the Authority in relation to the Treaty, that expenditure shall be borne by each of the Contracting Parties in the same proportion as set out in paragraph (a).

(3) Paragraph (a) shall not apply to the equitable sharing of the benefits arising from unitisation under Article 10 unless mutually agreed by the Contracting Parties.

Taxation Code

13.(1) The Contracting Parties shall agree upon a Taxation Code applicable to income derived from natural resource activities in the JMA.

(2) Neither Contracting Party may during the life of a natural resource project vary any of the provisions of the Taxation Code applicable to it except by mutual agreement.

Application of Domestic Law

14. For the purposes of the application of the domestic laws of each Contracting Party related directly or indirectly to —

- (a) the exploration of the continental shelf within the JMA and the development and exploitation of natural resources in the JMA; and
- (b) acts, matters, circumstances and things touching, concerning, arising out of or connected with, natural resource activities in the JMA;
- (c) the JMA shall be deemed to be and treated by each Contracting Party as forming part of its respective territory.

Natural Resource Codes

15.(1) The Contracting Parties may agree upon natural resource codes concerning the exploration of the continental shelf within the JMA and the

development, exploitation, harvesting, conservation and export of natural resources from the JMA.

(2) The Commission shall, where necessary, adopt interim arrangements to be applied pending the adoption of natural resource codes in accordance with paragraph (a).

PART 4 - PIPELINES AND UNITISATION

Pipelines

16.(1) The construction and operation of a pipeline within the JMA for the purposes of exporting petroleum from the JMA shall be subject to the approval of the Commission.

(2) The Contracting Parties shall consult each other on the terms and conditions for laying of pipelines exporting petroleum from the JMA to the point of landing.

(3) A pipeline landing in the territory of a Contracting Party shall be under the jurisdiction of the country of landing.

(4) In the event a pipeline is constructed from the JMA to the territory of either of the Contracting Parties, the country where the pipeline lands may not object to or impede decisions of the Commission regarding that pipeline except where the construction of a pipeline would have an adverse economic or physical impact upon an existing natural resource project in the JMA.

(5) Petroleum from the JMA and from fields which straddle the boundaries of the JMA shall at all times have priority of carriage along any pipeline carrying petroleum from and within the JMA.

(6) There shall be open access to pipelines for petroleum from the JMA. The open access arrangements shall be in accordance with good international regulatory practice. If one Contracting Party has jurisdiction over the pipeline, it shall consult with the other Contracting Party over access to the pipeline.

Unitisation

17.(1) Any reservoir of petroleum or unitary mineral deposit that extends across or straddles the boundary of the JMA into the Exclusive Economic Zone of either or both Contracting Parties shall be treated as a single entity for exploration, development and management purposes.

(2) The Contracting Parties shall work expeditiously and in good faith to reach agreement on the manner in which the petroleum field or mineral deposit referred to in paragraph (a) will be most effectively managed and developed and on the equitable sharing of revenue arising from such development.

Surveys

18. Each of the Contracting Parties has the right to conduct surveys including hydrographic, geological, geophysical and seismic surveys to facilitate natural resource activities in the JMA. In the exercise of such right, the Contracting Parties shall —

- (a) notify the Authority of any proposed survey;
- (b) cooperate on the conduct of such surveys, including the provision of necessary on-shore facilities; and
- (c) exchange information relevant to natural resource activities in the JMA.

PART V - PROTECTION OF THE ENVIRONMENT, BIODIVERSITY AND BIOPROSPECTING

Protection of the Seabed Marine Environment

19.(1) The Contracting Parties shall co-operate to protect natural resources in the JMA so as to secure seabed biodiversity and prevent pollution and other risks of harm to the environment arising from, or connected with, natural resource activities in the JMA.

(2) The Contracting Parties shall apply the precautionary principle in co-operating to conserve and protect the environment and biodiversity of the

seabed in the JMA. This shall include measures concerning fishing activity in the waters superjacent to the seabed in the JMA where such activity is having a direct impact upon, or poses a significant risk to, the natural resources of the seabed and subsoil in the JMA.

(3) The Contracting Parties shall co-operate to protect seabed marine habitats and associated ecological communities of the seabed in the JMA. This shall include the identification of environmental benchmarks and the identification of seabed marine protected areas, having regard to the following —

- (a) geographical distribution of seabed marine species and biological communities;
- (b) the structure of these communities;
- (c) their relationship with the physical and the chemical environment;
- (d) the natural ecological and genetic variability; and
- (e) the nature and the effect of the anthropogenic influences including fishing and natural resource activities on these ecosystem components.

(4) Where pollution of the marine environment occurring in the JMA spreads beyond the JMA, the Contracting Parties shall co-operate in taking prompt and effective action to prevent, mitigate and eliminate such pollution in accordance with international best practices, standards and procedures.

(5) The Authority shall issue regulations to protect the living natural resources and seabed environment in the JMA. It shall establish a contingency plan for combating pollution from natural resource activities in the JMA.

(6) Contractors shall be liable for damage or expenses incurred as a result of pollution of the marine environment arising out of natural resource activities within the JMA in accordance with —

- (a) their contract, licence or permit or other form of authority issued pursuant to the Treaty; and
- (b) the law of the jurisdiction of the Contracting Party in which the claim is brought.

Biological Surveys and Bioprospecting

20.(1) Each of the Contracting Parties has the right to carry out biological surveys for the purposes of Article 12 of the Treaty and to engage in bioprospecting to identify and examine living natural resources that may be of value for commercial development in the JMA or of conservation significance.

(2) The Contracting Parties shall —

- (a) notify the Authority of any proposed survey;
- (b) co-operate in the conduct of such biological surveys and bioprospecting, including the provision of necessary on-shore facilities; and
- (c) exchange information relevant to biological surveys and bioprospecting in the JMA.

PART VI - EMPLOYMENT, HEALTH AND SAFETY AND APPLICATION OF DOMESTIC LAWS

Employment

21. The Contracting Parties shall take appropriate measures to ensure that preference is given in employment in the JMA to nationals of both Contracting Parties and to facilitate, as a matter of priority, training and employment opportunities for those nationals.

Health and Safety for Workers

22.(1) The Authority shall develop, and contractors shall apply where required, occupational health and safety standards and procedures for persons employed on installations and structures in the JMA in accordance with internationally accepted standards and best practices.

(2) Similar occupational health, safety standards and procedures shall apply to all workers engaged in natural resource activities in the JMA.

Criminal Jurisdiction

23.(1) The Contracting Parties shall examine different options for addressing offences committed in the JMA. Pending the completion of such exercise, the provisions of this Article shall apply with respect to offences committed in the JMA.

(2) A national or resident of a Contracting Party shall be subject to the criminal law of the country of nationality or residence in respect of acts or omissions occurring in the JMA connected with or arising out of natural resource activities.

(3) Notwithstanding paragraph (e), a national of a third state, not being a resident of either Contracting Party, shall be subject to the criminal law of either Contracting Party in respect of acts or omissions occurring in the JMA connected with or arising out of natural resource activities. Such person shall not be subject to criminal proceedings under the law of either Contracting Party if he or she has already been tried and discharged or acquitted by a competent tribunal or already undergone punishment for the same act or omission under the law of the other country or where the competent authorities of one country, in accordance with its law, have decided in the public interest to refrain from prosecuting the person for that act or omission.

(4) In cases referred to in paragraph (c), the Contracting Parties shall, as and when necessary, consult each other to determine which criminal law is to be applied, taking into account the nationality of the victim and the interests of the country most affected by the alleged offence.

(5) The criminal law of the flag state shall apply in relation to acts or omissions on board vessels operating in the waters superjacent to the JMA.

(6) The Contracting Parties shall provide assistance to and co-operate with each other, including through agreements or arrangements as appropriate, for the purposes of enforcement of criminal law under this Article, including the obtaining of evidence and information.

(7) The Contracting Parties each recognise the interest of the other country where a victim of an alleged offence is a national of that other country and shall keep that other country informed, to the extent permitted by its law, of action being taken with regard to the alleged offence.

(8) The Contracting Parties may make arrangements permitting officials of one country to assist in the enforcement of the criminal law of the other country. Where such assistance involves the detention of a person who under paragraph (b) is subject to the jurisdiction of the other country, that detention may only continue until it is practicable to hand the person over to the relevant officials of that other country.

Customs, Migration and Quarantine

24.(1) The Contracting Parties may, subject to paragraphs (c), (e), (f) and (g), apply customs, migration and quarantine laws in accordance with internationally accepted standards and best practices to persons, equipment and goods entering its territory from, or leaving its territory for, the JMA. The Contracting Parties may adopt arrangements to facilitate such entry and departure.

(2) Contractors shall ensure, unless otherwise authorised by the Contracting Parties, that persons, equipment and goods do not enter structures in the JMA without first entering the Contracting Parties, and that their employees and the employees of their subcontractors are authorised by the Authority to enter the JMA.

(3) Either Contracting Party may request consultations with the other Contracting Party in relation to the entry of particular persons, equipment and goods to structures in the JMA aimed at controlling the movement of such persons, equipment and goods.

(4) Nothing in this Article prejudices the right of either Contracting Party to apply customs, migration and quarantine controls to persons, equipment and goods entering the JMA without the authority of either Contracting Party. The Contracting Parties may adopt arrangements to co-ordinate the exercise of such rights.

(5) Goods and equipment entering the JMA for purposes related to natural resource activities shall not be subject to customs duties, excise tax, VAT, levy and other similar taxes.

(6) Goods and equipment leaving or in transit through the territory of the Contracting Parties for the purpose of entering the JMA for purposes related to natural resource activities shall not be subject to customs duties, excise tax, VAT, levy and other similar taxes.

(7) Goods and equipment leaving the JMA for the purpose of being permanently transferred to a part of the territory of the Contracting Parties may be subject to customs duties, excise tax, VAT, levy and other similar taxes of that Contracting Party.

Safety, Operating Standards and Crewing of Resource Industry Vessels

25.(1) Except as otherwise provided in the Treaty, vessels of the nationality of a Contracting Party engaged in natural resource activities in the JMA shall be subject to the law of their nationality in relation to safety and operating standards and crewing regulations.

(2) Vessels flying the flag of States other than the Contracting Parties and which are engaged in natural resource activities in the JMA shall be subject to the relevant international safety and operating.

PART VII - SURVEILLANCE, SECURITY AND RESCUE

Surveillance and Security Measures

26.(1) For the purposes of the Treaty, the Contracting Parties shall have the right to carry out surveillance activities in the JMA in relation to natural resource activities.

(2) The Contracting Parties shall co-operate on and co-ordinate any surveillance activities carried out in accordance with paragraph (a) and shall exchange information on likely threats to, or security incidents relating to, natural resource activities in the JMA.

(3) The Contracting Parties shall make arrangements for responding promptly and effectively to security incidents in the JMA.

Search and Rescue

27. The Contracting Parties shall, at the request of the Authority and consistent with the Treaty, co-operate and assist in the conduct of search and rescue operations in the JMA, taking into account generally accepted international rules, regulations and procedures established through competent international organisations.

PART VIII - SETTLEMENT OF DISPUTES, DURATION AND ENTRY INTO FORCE

Settlement of Disputes

28.(1) With the exception of disputes falling within the scope of the Taxation Code referred to in Article 6 of the Treaty and which shall be settled in accordance with that Code as agreed by the Contracting Parties, any dispute concerning the interpretation or application of the.

(2) Treaty shall, as far as possible, be settled amicably through mutual consultation.

(3) Any dispute which is not settled in the manner set out in paragraph (a) and any unresolved matter relating to the operation of the Treaty under Article 4(b)(ii) shall, at the request of either of the Contracting Parties, be submitted to an Arbitral Tribunal established in accordance with the procedure set out in Annex B.

Amendment of the Treaty

29. The Treaty may be amended at any time by written agreement between the Contracting Parties.

Duration of the Treaty

30.(1) The Treaty shall remain in force until a permanent delimitation of the continental shelf is agreed between the Contracting Parties or for thirty (30) years from the date of its entry into force, whichever is sooner.

(2) The Treaty may be renewed by agreement between the Contracting Parties.

(3) Natural resource projects commenced under the Treaty shall continue, notwithstanding that the Treaty is no longer in force, under conditions that are consistent with those that are provided for under the Treaty.

(4) Codes and regulations shall be appended to this Act as annexes.

(5) For the giving effect to the provisions of the Treaty the Minister may amend the annexes or insert new annexes.

PART B

Treaty Concerning the Joint Exercise of Sovereign Rights over the Continental Shelf in the Mascarene Plateau Region

Contracting Parties

1. The Contracting Parties

RECALLING that both countries being coastal States co-operated on the basis of the Treaty between the Government of the Republic of Seychelles and the Government of the Republic of Mauritius on the Framework for a Joint Submission to the United Nations Commission on the Limits of the Continental Shelf dated 18 September 2008, as subsequently amended, to lodge on 1 December 2008 the Joint Submission to the United Nations Commission on the Limits of the Continental Shelf ('the Commission') concerning the Mascarene Plateau region ("Joint Submission") under Article 76, paragraph 8 of the United Nations Convention on the Law of the Sea done at Montego Bay on 10 December 1982 ("the Convention");

RECALLING ALSO that on 30 March 2011, the Commission adopted recommendations confirming the entitlement of the Contracting Parties to the area of continental shelf submitted by them in the Joint Submission, as contained in the Commission

document entitled Recommendations of the Commission on the Limits of the Continental Shelf in regard to the Joint Submission made by Mauritius and Seychelles in respect of the Mascarene Plateau Region on 1 December 2008;

NOTING that Article 76 of the Convention provides that the limits of the continental shelf established by coastal States on the basis of the recommendations of the Commission shall be final and binding;

NOTING ALSO that Article 83 of the Convention provides that the delimitation of the continental shelf between States with opposite coasts shall be effected by agreement on the basis of international law in order to achieve an equitable solution and, in the absence of delimitation, that States shall make every effort in a spirit of understanding and co-operation to enter into provisional arrangements of a practical nature which do not prejudice a final delimitation of the continental shelf.

Joint Exercise of Sovereign Rights over the Continental Shelf

2. The Contracting Parties shall exercise sovereign rights jointly for the purpose of exploring the continental shelf and exploiting its natural resources in the area described in Article 2 ('the Joint Zone').

Delineation of the Joint Zone

3. The Joint Zone is defined by the following points, the coordinates of latitude and longitude [referred to the World Geodetic System (WGS84)] of which are set out at Annex 1 to the Treaty, and as illustrated in the map at Annex 2 of the Treaty —

- (a) Commencing at point ECS1 on Seychelles Exclusive Economic Zone Boundary, the boundary line runs through points ECS2 to ECS44, thence to point ECS45, thence to point ECS46, thence through points ECS47 to ECS105, thence to point ECS106, thence through points ECS107 to ECS123, thence through points ECS124 to ECS186, thence

to point ECS187, thence to point ECS188, thence through points ECS189 to ECS220, thence to point ECS221, thence through points ECS222 to ECS269, thence through points ECS270 to ECS275, thence to point ECS276, thence through points ECS277 to ECS296, thence through points ECS297 to ECS321, thence through points ECS322 to ECS362, thence to point ECS363, thence through points ECS364 to ECS395, thence to point ECS396, thence through points ECS397 to ECS453 on Mauritius Exclusive Economic Zone boundary, thence along Mauritius Exclusive Economic Zone boundary to point 34, thence through points 35 to 41, thence through points 42 to 47, thence through point 48 to MS1 on the intersection of the Seychelles and Mauritius Exclusive Economic Zone boundaries, thence along the Seychelles Exclusive Economic Zone boundary through points EZ1 to EZ5, thence along the Seychelles Exclusive Economic Zone boundary to the starting point at ECS1 on Seychelles Exclusive Economic Zone boundary;

- (b) Geographical coordinates delineating the Seychelles-Mauritius Joint Zone;
- (c) The boundary line between the above listed points is a geodesic and shall be as specified under Annex H.

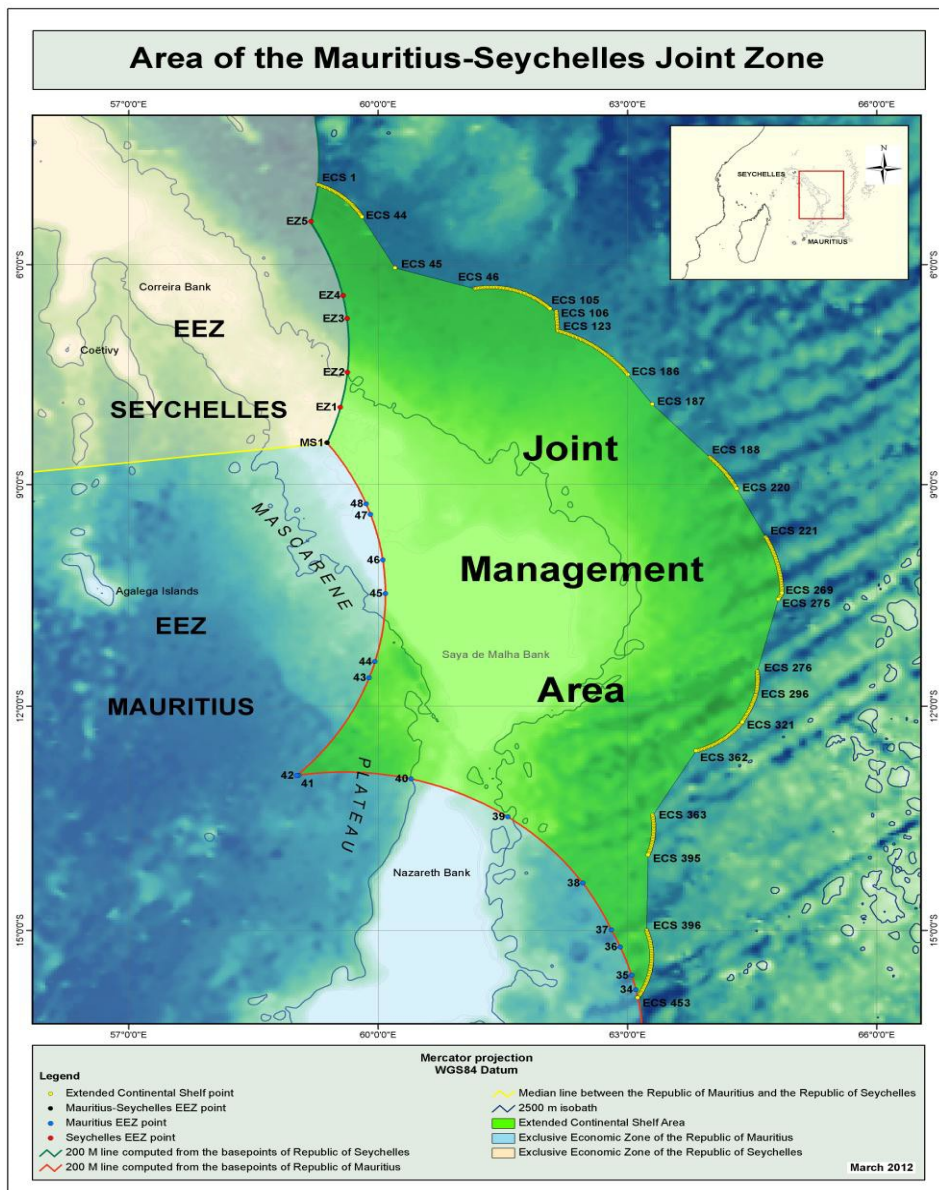
ANNEX A

Article 3 of the Treaty

Designation and Description of the JMA

The JMA referred to in Article 3 comprises the area of continental shelf set out in Article 2 of the Treaty Concerning the Joint Exercise of Sovereign Rights over the Continental Shelf in the Mascarene Plateau Region, done on 13 March 2012, as depicted in the map below —

Management Area (JMA) over the Continental Shelf in the Mascarene Plateau



ANNEX B**Article 21 of the Treaty****Dispute Resolution Procedure**

1. An Arbitral Tribunal (“Tribunal”) to which a dispute is submitted pursuant to Article 21 (b) shall consist of three persons appointed as follows —
 - (a) the Contracting Parties shall each appoint one arbitrator;
 - (b) the arbitrators appointed by the Contracting Parties shall, within sixty (60) days of the appointment of the second of them, by agreement, select a third arbitrator who shall be a citizen, or permanent resident of a third country which has diplomatic relations with both the Contracting Parties; and
 - (c) the Contracting Parties shall, within sixty (60) days of the selection of the third arbitrator, approve the selection of that arbitrator who shall act as Chairman of the Tribunal
2. Arbitration proceedings shall be instituted upon notice being given through the diplomatic channel by the Contracting Party instituting such proceedings to the other Contracting Party. Such notice shall contain —
 - (a) a statement setting forth in summary form the grounds of the claim;
 - (b) the nature of the relief sought; and
 - (c) the name of the arbitrator appointed by the Contracting Party instituting such proceedings.
3. Within sixty (60) days after the giving of such notice, the respondent Contracting Party shall notify the Contracting Party instituting proceedings of the name of the arbitrator appointed by the respondent Contracting Party.

4. If, within the time limits provided for in sub-paragraphs (a) (ii) and (iii) and paragraph (b) of this Annex, the required appointment has not been made or the required approval has not been given, the Contracting Parties may request the President of the International Tribunal of the Law of the Sea (“ITLOS”) to make the necessary appointment. If the President is a citizen or permanent resident of the Contracting Parties or is otherwise unable to act, the Vice-President shall be invited to make the appointment. If the Vice-President is a citizen or permanent resident of the Contracting Parties or is otherwise unable to act, the Member of the ITLOS next in seniority who is not a citizen or permanent resident of the Contracting Parties shall be invited to make the appointment.
5. In case any arbitrator appointed as provided for in this Annex resigns or becomes unable to act, another arbitrator shall be appointed in the same manner as prescribed for the appointment of the original arbitrator and the new arbitrator shall have all the powers and duties of the original arbitrator.
6. The Tribunal shall convene at such time and place as shall be fixed by the Chairman of the Tribunal. Thereafter, the Tribunal shall determine where and when it shall sit.
7. The Tribunal shall decide all questions relating to its competence and shall, subject to any agreement between the Contracting Parties, determine its own procedures.
8. Before the Tribunal makes a decision, it may at any stage of the proceedings propose to the Contracting Parties that the dispute be settled amicably. The Arbitral Tribunal shall reach its award by majority vote, taking into account the provisions of the Treaty and relevant international law.
9. Each Contracting Party shall bear the costs incurred in relation to its appointed arbitrator and its own costs in preparing and presenting cases. The cost incurred in relation to the Chairman of the Tribunal and the expenses associated with the conduct of the arbitration shall be borne in equal parts by the Contracting Parties.

10. The Tribunal shall afford to the Contracting Parties a fair hearing. It may render an award on the default of either of the Contracting Parties. In any case, the Arbitral Tribunal shall render its award within six (6) months from the date it is convened by the Chairman of the Tribunal. Any award shall be rendered in writing and shall state its legal basis. A signed counterpart of the award shall be transmitted to the Contracting Parties.
11. An award of the Tribunal shall be final and binding on the Contracting Parties.

ANNEX C

Article 4(c)(ii)

Treaty Powers and Functions of the Joint Commission

1. The powers and functions of the Joint Commission shall include —
 - (a) establishing the Authority;
 - (b) giving directions to the Authority on the exercise of its powers and performance of its functions;
 - (c) conferring additional powers and functions to the Authority;
 - (d) adopting taxation and natural resource codes applicable to the JMA including amendments and interim arrangements as necessary;
 - (e) approving financial estimates of income and expenditure of the Authority;
 - (f) approving rules, regulations and procedures for the effective functioning of the Authority;
 - (g) calling for the auditing of the Authority's books and accounts;
 - (h) considering and adopting the annual report of the Authority.

ANNEX D**Article 4(d)(iv)****Powers and Functions of the Authority**

The powers and functions of the Authority shall include —

- (a) day-to-day management and regulation of natural resource activities in accordance with the Treaty and any instruments made or entered into under the Treaty, including directions given by the Joint Commission;
- (b) preparation of annual estimates of income and expenditure of the Authority for submission to the Joint Commission. Any expenditure shall only be made in accordance with estimates approved by the Joint Commission or otherwise in accordance with regulations and procedures approved by the Joint Commission;
- (c) preparation of annual reports for submission to the Joint Commission;
- (d) requesting assistance from the appropriate authorities consistent with the Treaty;
- (e) for search and rescue operations in the JMA;
- (f) in the event of piracy or terrorist threats to vessels and structures engaged in natural resource petroleum operations in the JMA;
- (g) requesting assistance with pollution prevention measures, equipment and procedures from the appropriate authorities or other bodies or persons;
- (h) establishment of safety zones and restricted zones, consistent with international law, to ensure the safety of navigation connected with natural resource activities;

- (i) controlling movements into, within and out of the JMA of vessels, aircraft, structures and other equipment engaged in natural resource activities in a manner consistent with international law; and, subject to Article 15, authorising the entry of employees and contractors and their subcontractors and other persons into the JMA;
- (j) applying regulations and giving directions as approved by the Commission under the Treaty, on all matters related to the supervision and control of natural resource activities including on health, safety, environmental protection and assessments and work practices, pursuant to natural resource codes;
- (k) acting as a repository of all data and information pertaining to the JMA;
- (l) conducting inspections and audits concerning natural resource activities in the JMA; and
- (m) such other powers and functions as may be identified by the Contracting Parties or as may be conferred on it by the Joint Commission.

ANNEX E

THE JOINT FISCAL AND TAXATION CODE, 2022

(Section 32)

ARRANGEMENT OF ARTICLES

SECTION A: GENERAL

Article 1	Short Title
Article 2	Interpretation and Application
Article 3	Application of the Code
Article 4	Personal Scope
Article 5	Source of Income
Article 6	Resident

SECTION B: INCOME GENERATED FROM NATURAL RESOURCE ACTIVITIES

PART 1: LIABILITY TO ROYALTY AND TAXES

- Article 7 Royalty and Taxes
- Article 8 Filing of Returns and Payment of Tax

PART 2: PETROLEUM ROYALTY

- Article 9 Levy of Petroleum Royalty

PART 3: PETROLEUM INCOME TAX

- Article 10 Gross Income
- Article 11 Allowable Expenditure
- Article 12 Costs Not-Allowable
- Article 13 Computation of Taxable Income
- Article 14 Rate of Petroleum Income Tax

PART 4: PETROLEUM ADDITIONAL PROFITS TAX

- Article 15 Levy of Petroleum Additional Profits Tax

SECTION C: INCOME GENERATED FROM OTHER ACTIVITIES RELATED TO OR CONNECTED WITH NATURAL RESOURCE ACTIVITIES IN THE JMA

- Article 16 Attribution of Income
- Article 17 Taxation of Employees
- Article 18 Tax Treatment of Dividends
- Article 19 Exchange of Information
- Article 20 Amendments
- Article 21 Entry into force

JOINT FISCAL AND TAXATION CODE CONCERNING THE JOINT MANAGEMENT AREA

The Government of the Republic of Mauritius and the Government of the Republic of Seychelles hereafter referred to as the ‘Contracting States’;

DESIRING to conclude arrangements to provide a framework for the imposition of taxes on income arising out of natural resource activities in the JMA and related matters, and provide for the allocation of taxing rights between the Contracting States over this income in accordance with the *Treaty concerning the Joint Management of the Continental Shelf in the Mascarene Plateau Region signed by the Government of the Republic of Seychelles and the Government of the Republic of Mauritius at Clarisse House, Vacoas in Mauritius on 13 March 2012* (‘the Treaty’);

RECALLING that Article 5 of the Treaty provides that the Contracting States have agreed to share revenue in respect of natural resource activities in the Joint Management Area (‘JMA’) equally;

RECALLING also that Article 6 of the Treaty provides that the Contracting States shall agree upon a Joint Fiscal and Taxation Code applicable to income derived from natural resource activities in the JMA;

MINDFUL of the importance of exchanging tax related information as is necessary for carrying out the provisions of this Joint Fiscal and Taxation Code;

EXERCISING their powers under Article 3(c)(ii) of and Annex C to the Treaty;

Hereby Establish the Following —

SECTION A: GENERAL

ARTICLE 1

Short Title

This Code may be cited as the *Joint Fiscal and Taxation Code 2020*.

ARTICLE 2

Interpretation and Application

1. In this Code, unless the context otherwise requires —

“Code” means the Joint Fiscal and Taxation Code 2020;

“Contracting State” means Mauritius or Seychelles, as the context requires;

“Mauritius” means the Republic of Mauritius and includes —

- (a) all the territories and islands which, in accordance with the laws of Mauritius, constitute the State of Mauritius;
- (b) the territorial sea of Mauritius; and
- (c) any area outside the territorial sea of Mauritius which in accordance with international law has been or may hereafter be designated, under the laws of Mauritius, as an area, including the Continental Shelf, within which the rights of Mauritius with respect to the sea, the sea-bed and sub-soil and their natural resources may be exercised.

“Seychelles” means the territory of the Republic of Seychelles as defined in Article 2 of the Constitution of the Republic of Seychelles;

“Corporation” means a body corporate incorporated under the law of either Contracting State;

“Designated Authority” means the designated authority established pursuant to Article 4 of the Treaty or any entity or persons designated by the Joint Commission as the designated authority;

“Emoluments” means any advantage in money or money's worth which is —

- (a) salary, wages, leave pay, payment in lieu of leave, fee, overtime pay, perquisite, allowance, bonus, gratuity, commission or other

reward or remuneration in respect of or in relation to the office or employment of an individual; and

- (b) superannuation, compensation for loss of office, pension, retiring allowance, annuity or other reward in respect of or in relation to past employment or loss or reduction of future income of an individual, whether receivable by that individual or by any person who is or has been the spouse or dependent of that individual.

“Gross income” means the total amount of income derived by a licensed corporation without any deduction from that amount and computed in accordance with Article 10 of this Code;

“JMA” is the Joint Management Area established and defined in Article 3 of the Treaty;

“Licensed corporation” means a corporation licensed by the Designated Authority to carry out natural resource activities in the JMA;

“Natural resource activities” has the meaning set out in Article 1 of the Treaty and means all activities authorised or contemplated under a contract, permit or licence that are undertaken to explore and exploit natural resources in the JMA including development, initial processing, harvesting, production, transportation and marketing, as well as the planning and preparation for such activities;

“Person” includes an individual, a company, a trust and any other body of persons which is treated as an entity for tax purposes;

“Petroleum” has the meaning set out in Article 1 of the Treaty and means any naturally occurring hydrocarbon, whether in a gaseous, liquid, or solid state and any naturally occurring mixture of hydrocarbons, whether in a gaseous, liquid or solid state, together with other substances produced in association with such hydrocarbons, and includes any petroleum that has been returned to a reservoir;

“Petroleum activities” means activities carried out by a licensed corporation for exploring, prospecting or mining for petroleum in the JMA;

“Petroleum Agreement” means an agreement between the Designated Authority and any corporation for exploring, prospecting or mining for petroleum in the JMA;

“Resident” has the meaning assigned to it in Article 6 of this Code;

“Taxable income” for the purposes of Section B means the taxable income as calculated in accordance with Article 14 of this Code;

“Tax law” means —

- (a) in the case of Mauritius, the Income Tax Act 1995; and
- (b) in the case of Seychelles —
 - (i) the Business Tax Act 2009;
 - (ii) the Income and Non-Monetary Benefits Tax Act 2010; and
 - (iii) the Revenue Administration Act 2009,

as the context requires;

“Tax year” means a calendar year or any period of twelve consecutive calendar months as approved by the Designated Authority;

“Treaty” means Treaty concerning the Joint Management of the Continental Shelf in the Mascarene Plateau Region signed by the Government of the Republic of Seychelles and the Government of the Republic of Mauritius at Clarisse House, Vacoas in Mauritius on 13 March 2012.

2. The Code set out in the Schedule to this Act shall have the force of law in the Republic of Seychelles.

3. Where an amendment to the Code is accepted by the Parties to the Code, the Minister may, by Order published in the Gazette, amend the Schedule to give effect to the amendment.

ARTICLE 3

Application of Code

This Code shall apply to the taxation of income generated directly or indirectly from natural resource activities in the JMA and from all acts, matters, circumstances, and things concerning, arising out of or connected with any such activity pursuant to the Treaty.

ARTICLE 4

Personal Scope

This Code shall apply to —

- (a) licensed corporations that are residents of one or both Contracting States;
- (b) individuals, whether resident of a Contracting State or elsewhere, employed by a licensed corporation to perform duties in the JMA; and
- (c) any person deriving income from activities falling within the scope of this Code.

ARTICLE 5

Source of Income

For the purposes of this Code, income derived by any person who is a resident of a Contracting State from activities in the JMA shall be deemed to be income derived from that Contracting State.

ARTICLE 6

Resident

1. For the purposes of this Code, a person is considered resident of a

Contracting State if the person satisfies the conditions provided for residence in accordance with the tax law of that Contracting State.

2. Where by reason of the provisions of paragraph 1 an individual is resident of both Contracting States, then his status shall be determined as follows —
 - (a) he shall be deemed to be a resident only of the State in which a permanent home is available to him; if a permanent home is available to him in both States, he shall be deemed to be a resident only of the State with which his personal and economic relations are closer (centre of vital interests);
 - (b) if the State in which he has his centre of vital interests cannot be determined, or he does not have a permanent home available to him in both States, he shall be deemed to be a resident only of the State in which he has an habitual abode;
 - (c) if he has an habitual abode in both States or in neither of them, he shall be deemed to be a resident only of the State of which he is a national;
 - (d) if he is a national of both States or of neither of them, the competent authorities of the Contracting States shall settle the question by mutual agreement.
3. Where by reason of the provisions of paragraph 1 a person, other than an individual, is a resident of both Contracting States, then it shall be deemed to be a resident only of the State in which its place of effective management is situated.
4. Where an individual deriving emoluments from duties performed in the JMA is not a resident of either of the Contracting States, he shall be deemed to be a resident of the Contracting State of which his employer is a resident.

**SECTION B:
INCOME GENERATED FROM NATURAL RESOURCE ACTIVITIES**

PART 1: LIABILITY TO ROYALTY AND TAXES

**ARTICLE 7
Royalty and Taxes**

1. A licensed corporation shall be subject to the following royalty and taxes, as applicable, in respect of income generated from natural resource activities concerning petroleum in the JMA —
 - (a) Petroleum Royalty;
 - (b) Petroleum Income Tax;
 - (c) Petroleum Additional Profits Tax;
2. The royalty and taxes referred to in paragraph 1 shall be levied in accordance with this Code and the relevant provisions of any applicable Petroleum Agreement.

**ARTICLE 8
Filing of Returns and Payment of Tax**

1. A licensed corporation shall, within 6 months following the end of each tax year —
 - (a) submit a return in such form as may be approved by the Designated Authority; and
 - (b) pay to the Designated Authority any tax due in accordance with that return,in respect of Petroleum Income Tax and Petroleum Additional Profits Tax.
2. Where the Designated Authority is not satisfied with a return submitted under paragraph 1, it may issue a notice of assessment to

the corporation specifying the amount of tax and penalty payable by the corporation and the date by which the tax shall be paid.

3. The law of the Contracting State where a licensed corporation is resident shall apply for the purposes of any offence relating to non-compliance, objections to assessments, appeals and recovery of taxes remaining unpaid.

PART 2: PETROLEUM ROYALTY

ARTICLE 9

Levy of Petroleum Royalty

1. Petroleum Royalty shall be levied in accordance with the provisions of the applicable Petroleum Agreement.
2. Petroleum Royalty is payable monthly to the Designated Authority not later than thirty (30) days after the end of the calendar month in the manner provided for under the applicable Petroleum Agreement.

PART 3: PETROLEUM INCOME TAX

ARTICLE 10

Gross Income

1. The gross income accruing to a licensed corporation in a tax year shall include —
 - (a) the market value of so much of the taxable petroleum disposed of by the corporation in sales at arm's length as was delivered by the corporation in the tax year;
 - (b) the market value of so much of the corporation's taxable petroleum disposed of by the corporation otherwise than in sales at arm's length as was delivered by the corporation in the tax year;
 - (c) the market value of so much of the corporation's taxable petroleum as was appropriated by the corporation in the tax year to refining or other processing without being disposed of;

- (d) one-half of the market value of so much of the corporation's taxable petroleum as the corporation had at the end of the tax year not disposed of and not appropriated to refining or other processing or disposed of but not delivered.

2. For the purposes of this Article, a corporation's taxable petroleum includes —

- (a) all the petroleum (except the petroleum referred to in paragraph (c) or (d) below) won and saved under the authority of a Petroleum Agreement during a period when the corporation was the sole party to the Petroleum Agreement; and
- (b) the corporation's share of petroleum (except the petroleum referred to in paragraph (c) or (d) below) won and saved under the authority of a Petroleum Agreement when the corporation and one, or more than one, other corporations were parties to the petroleum agreement, determined on either or both of the following principles, namely —
 - (i) by reference to any operating agreement or agreements (howsoever described) deposited with the Designated Authority and providing for the division of all the petroleum won and saved under the authority of that Petroleum Agreement or won from a particular petroleum field under that authority, among those parties or between those parties and the Government or an agency of the Government, of the Contracting States, and no others;
 - (ii) in the case of petroleum so won and saved with respect to which no such operating agreement providing for its division as aforesaid is deposited with the Designated Authority, on the basis of the parties each being entitled to an equal share of each class of petroleum so won and saved,

but does not include —

- (c) any petroleum which is delivered by the corporation pursuant to

a Petroleum Agreement in discharge of the liability to pay royalty under the agreement; or,

- (d) any petroleum to which the Government or any agency of the Government of the Contracting States, is entitled as a result of its participation in the development of a petroleum field.

3. Where the market value of any quantity of petroleum needs to be determined for the purposes of this article that value shall be deemed to be the market value of that quantity of petroleum agreed or determined or which would be agreed or determined for the purpose of calculating the royalty payable in respect of the petroleum won and saved under the petroleum agreement.
4. The gross income accruing to a licensed corporation in a tax year shall include miscellaneous income which may consist of —
- (a) the amount or value of the consideration in money or money's worth received or receivable by the corporation in respect of the assignment in the tax year of the interest, or any part of the interest, of the corporation in a Petroleum Agreement;
- (b) the amount or value of the consideration in money or money's worth received or receivable by the corporation in respect of the sale, in the tax year, of information relating to the existence and extent of petroleum deposits in the JMA;
- (c) any amount (not being gross income under any other provisions in this Code) accruing in the tax year to the corporation as income from any of the corporation's petroleum activities in the JMA.
5. Where any person carries out, or is to carry out, on behalf of a corporation, work in the JMA subject to a Petroleum Agreement, and the consideration, or any part of the consideration, for the person doing so is the assignment to the person of any part of the interest of the corporation in that Petroleum Agreement, the value of that work is not gross income accruing to the corporation in any tax year, but

without prejudice to consideration (if any), other than work, for the assignment being treated as gross income.

ARTICLE 11

Allowable Expenditure

1. Any expenditure or loss on such items as set out in Third Schedule of the Petroleum Agreement shall be deductible from gross income for the purposes of calculating the taxable income concerning the determination of Petroleum Income Tax.
2. Such expenditure or cost referred to in paragraph 1 may relate *inter alia* to the following —
 - (a) Exploration expenditures;
 - (b) Development expenditures;
 - (c) Operating expenditures;
 - (d) General administrative expenditures;
 - (e) Labour and associated labour costs;
 - (f) Transportation;
 - (g) Charges for Services;
 - (h) Property and Equipment;
 - (i) Material;
 - (j) Annual rental and levies;
 - (k) Insurance and losses;
 - (l) Legal expenses;
 - (m) Training costs; and
 - (n) General administrative costs.

ARTICLE 12

Costs Not-Allowable

The following costs and expenditure shall not be allowable in the computation of Petroleum Income Tax —

- (a) Costs incurred before the entry into force of the applicable Petroleum Agreement;
- (b) Petroleum marketing and transportation costs beyond the corporation's actual loading point;
- (c) Cost of Arbitration and the Sole Expert in respect of any dispute under a Petroleum Agreement;
- (d) Fines and penalties for violation of any law, rule or regulation;
- (e) Costs incurred as a result of misconduct or negligence of the corporation;
- (f) Any reserve or provision of any kind;
- (g) Any costs associated with a Parent Company Guarantee or similar credit support mechanism;
- (h) Donations and charitable contributions not endorsed by the Designated Authority;
- (i) Research expenditure pertaining to petroleum exploration and development equipment, materials and techniques.

ARTICLE 13

Computation of Taxable Income

1. The taxable income of a licensed corporation in respect of a tax year shall be the difference between the gross income accruing to the corporation in the tax year and the aggregate amount of allowable expenditure of the corporation for that tax year.

2. Where the aggregate of allowable expenditure exceeds the amount of gross income in respect of a tax year, the difference is an allowable loss that is available for set-off against the income of the following and subsequent years.

ARTICLE 14

Rate of Petroleum Income Tax

The Petroleum Income Tax payable by a licensed corporation for a tax year shall be calculated on the taxable income of the corporation at the rate of 35 per cent.

PART 4: PETROLEUM ADDITIONAL PROFITS TAX

ARTICLE 15

Levy of Petroleum Additional Profits Tax

Petroleum Additional Profits Tax shall be levied and payable to the Designated Authority in accordance with the relevant provisions of the applicable Petroleum Agreement.

SECTION C

INCOME GENERATED FROM OTHER ACTIVITY RELATED TO OR CONNECTED WITH NATURAL RESOURCE ACTIVITIES IN THE JMA

ARTICLE 16

Attribution of Income

1. Any income or gains derived by a person from any activity in the JMA not covered by Section B shall be subject to tax in accordance with the tax law of the Contracting State of which the person is a resident, except for the tax rate which shall be at the rate of 20 per cent of his taxable income.
2. Notwithstanding the domestic tax laws of the Contracting States, where a person makes a gain from disposal of any of his shares held in a licensed corporation, the gain shall be deemed to be income taxable

in the Contracting State of which the licensed corporation is a resident.

ARTICLE 17

Taxation of Employees

The emoluments of an individual in the employment of a licensed corporation engaged in activities covered by this Code shall be subject to tax in accordance with the tax law of the Contracting State of which the employee is a resident.

ARTICLE 18

Tax Treatment of Dividends

Notwithstanding the provisions in the tax law of a Contracting State in relation to the taxation of dividends, any dividend paid by a licensed corporation shall be exempt from tax in the Contracting State of which the corporation is a resident.

ARTICLE 19

Exchange of Information

1. The Contracting States shall exchange such information as they think necessary for the implementation of this Code.
2. The Contracting States shall by mutual agreement settle the mode of application for the exchange of information under paragraph 1.

ARTICLE 20

Amendments

This Code may be amended by mutual consent of the Contracting States. Any such amendment shall enter into force in accordance with the same legal procedure as provided for under Article 22.

ARTICLE 21

Entry into Force

Each of the Contracting States shall notify the other, by means of exchange of diplomatic notes, the completion of the procedures required by its law for the bringing into force of this Code. This Code shall enter into force on the date of receipt of the later notification.

APPENDIX 2

Joint Management Area Mascarene Plateau Region (Environmental Code of Practice)

(Section 32)

1. These regulations may be cited as the Joint Management Area Mascarene Plateau Region (Environmental Code of Practice) Regulations, 2021.

2. In these regulations, unless the context otherwise requires —

“Code” means the Environmental Code of Practice for the Joint Management Area prepared and signed by the Governments of the Republic of Mauritius and the Republic of Seychelles in February 2014, and includes its annexes;

“Convention” means the United Nations Convention on the Law of the Sea done at Montego on 10 the December 1982;

“Designated Authority” means the designated authority established pursuant to Article 4 of the Treaty or any entity or persons designated by the Joint Commission as the designated authority;

“Fund” means the Joint Management Area Marine Environment Fund as established under section 5(1);

“Joint Management Area” means the Joint Management Area established in the Mascarene Plateau Region in respect of the Joint Zone described in Article 2 of the Treaty Concerning the Joint Exercise of Sovereign Rights over the Continental Shelf in the Mascarene Plateau Region between the Government of the Republic of Mauritius and the Government of the Republic of Seychelles done on the 13th day of March, 2012;

“Minister” means the Minister responsible for the environment.

3. These regulations shall apply to the Joint Management Area.

4. These regulations shall have the force of law in the Republic of Seychelles.
- 5.(1) There is established the Joint Management Area Marine Environment Fund.
 - (2) All moneys received in accordance with the provisions of the Code shall be credited to the Fund.
 - (3) The Fund shall be applied for the sustainable management of the natural resources, seabed and marine environment in the Joint Management Area.
 - (4) Subject to the control and direction of the Minister, the Authority shall administer the Fund.
6. Where an amendment to the Code is accepted by the Parties to the Code, the Minister may, by Order published in the Gazette, amend the Schedule to give effect to the amendment.
7. The Minister may make regulations for giving effect to the provisions of this Act.

ANNEX F

Environmental Code of Practice

(Section 2)

A CODE

Determined in accordance with Article 8 and Article 12 of the Agreement Concerning the Establishment of a Joint Management Area in the Mascarene Plateau Region, to provide for the sustainable management of the natural resources, seabed and marine environment of the Joint Management Area.

PART 1

PRELIMINARY

ARTICLE 1

SHORT TITLE

This Code may be cited as the JMA Environmental Code of Practice 2013.

ARTICLE 2 INTERPRETATION

In this Code, unless the context otherwise requires —

“Activity” means an activity referred to in Article 4 of this Code;

“Authority” means the Designated Authority established in Article 4 of the Agreement Concerning the Establishment of a Joint Management Area in the Mascarene Plateau Region ('the JMA Agreement');

“Best Available Technique ('BAT')” means the most effective and advanced stage in the development of activities and their methods of operation which indicate the practical suitability of particular techniques for providing in principle the basis for emission limit values designed to prevent and, where that is not practicable, generally to reduce emissions and the impact on the environment as a whole —

- (a) ‘techniques’ shall include both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned;
- (b) ‘available’ techniques shall mean those developed on a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions, taking into consideration the costs and advantages; and
- (c) ‘best’ shall mean most effective in achieving a high general level of protection of the environment as a whole;

“Best Practicable Environmental Option ('BPEO')” means the option that provides the most environmental benefits or the least damage for the environment, as a whole, at acceptable cost, in the long term as well as the short term;

“Contracting State” means Republic of Mauritius or Republic of Seychelles, as the context requires;

“Contractor” means a corporation, company or other legal entity or entities with limited liability that enter into a contract with the Designated Authority and which are duly regulated;

“Commission” means the Joint Commission established under Article 4 of the JMA Agreement;

unless the context otherwise requires “impact” includes, but is not limited to —

- (a) any positive or adverse impact; and
- (b) any temporary or permanent impact; and
- (c) any past, present, or future impact; and,
- (d) any cumulative impact that arises over time or in combination with other impacts;

“Impact assessment” means the impact assessment described in Part 3;

“Joint Management Area” or “JMA” has the meaning as stated in Article 3 of the JMA Agreement;

“Licensed corporation” means a corporation licensed by the Designated Authority to carry out natural resource activities in the JMA;

“Major environmental incident” means any unforeseen environmental event, which presents a serious threat to the health and safety of people and the marine environment, or causes disruption to the normal operation of a facility, or causes (or is likely to cause) pollution or other unforeseen damage to the marine environment;

“Marine environment” means the natural environment, including ecosystems and their constituent parts and all natural resources, of —

- (a) the Joint Management Area; and
- (b) the Exclusive Economic Zone of Mauritius; and
- (c) the Exclusive Economic Zone of Seychelles; and,
- (d) the waters superjacent to and beyond the continental shelf;

“Marine plan” means a document —

- (a) that has been prepared and adopted for all or any specified part of the JMA by the Authority; and,
- (b) states the policies of the Authority, however expressed, for and in connection with the sustainable development of the defined area of the marine plan;

“Mauritius” means the Republic of Mauritius and includes —

- (a) all the territories and islands which, in accordance with the laws of Mauritius, constitute the State of Mauritius;
- (b) the territorial sea of Mauritius; and
- (c) any area outside the territorial sea of Mauritius which, in accordance with international law, has been or may hereafter be designated under the laws of Mauritius as an area including the Continental Shelf within which the rights of Mauritius with respect to the sea, the sea-bed and sub-soil and their natural resources may be exercised;

“Minerals” means any naturally occurring element, compound or substance, amorphous or crystalline (including liquid crystalline compounds), formed through geological or biogeochemical processes and any naturally occurring mixture of substances, including in the form of coal, clay, evaporates, gravel, limestone, oil-shale, sand, shale, rock, and polymetallic nodules;

“Minister” means the minister responsible for Fisheries and the Blue Economy;

“Natural resources” means the mineral, petroleum and other non-living resources of the seabed and subsoil of the continental shelf together with living organisms belonging to sedentary species;

“Natural resource activities” means all activities authorised or contemplated under a contract, permit or licence that are undertaken to explore and exploit natural resources in the JMA including development, initial processing, harvesting, production, transportation and marketing, as well as the planning and preparation for such activities;

“Offshore installation” includes —

- (a) any artificial structure (including a floating structure that is not a ship) used or intended to be used in or on, or anchored or attached to, the seabed for the purpose of the exploration for, or the exploitation or associated processing of, natural resources; and
- (b) a pipeline permanently attached to an offshore installation;

“Operated”, in relation to an offshore installation, means used in or on, or anchored or attached to, the seabed for the purpose of the exploration for, or the exploitation, associated processing or storage of, natural resources;

“Operator”, in relation to an offshore installation, includes —

- (a) any person having a right, privilege or licence to explore for or exploit natural resources in connection with which the installation is being, has been or is to be used;
- (b) any manager, lessee, licensee or operator of the installation;
- (c) any agent or employee of the operator, manager, lessee, licensee or operator of the installation; and,

- (d) any person in charge of any operations connected with the installation;

“Person” means any individual or partnership or any public or private body, whether corporate or not, including a State of any of its constituent subdivisions;

“Sedentary species” means living organisms that, at their harvestable stage —

- (a) are immobile on or under the seabed; or,
(b) are unable to move except in constant physical contact with the seabed or subsoil;

“Seychelles” means the territory of the Republic of Seychelles as defined in article 2 of the Constitution of the Republic of Seychelles;

“Ship” means every description of boat or craft used in navigation, whether or not it has any means of propulsion; and includes —

- (a) a barge, lighter, or other like vessel;
(b) a hovercraft or other thing deriving full or partial support in the atmosphere from the reaction of air against the surface of the water over which it operates; and,
(c) a submarine or other submersible;

“Special Drawing Rights ('SDRs')” means the reserve assets of the International Monetary Fund from which member nations may draw in proportion to their contribution to the Fund;

“Structure” means any building, equipment, or device including —

- (a) an offshore installation, artificial island, or floating platform; and,

- (b) a ship used in connection with any offshore installation, artificial island, or floating platform.

“Sustainable management” means managing the use, development, and protection of natural resources in a manner or at a rate that enables people to provide for their economic well-being whilst —

- (a) sustaining the potential of natural resources (excluding minerals) to meet the reasonably foreseeable needs of future generations;
- (b) safeguarding the life-supporting capacity of the environment; and,
- (c) avoiding, remedying, or mitigating any adverse effects of activities on the environment.

ARTICLE 3

SCOPE AND PURPOSE

This Code and its Annexes shall apply to the JMA.

The purpose of this Code is to ensure management of the use, development and protection of the natural resources of the JMA in a manner that enables the contracting States to utilise the resources of the JMA for the benefit of their people, whilst —

- (a) protecting the marine environment and dependent and associated ecosystems and taking all appropriate measures to protect and preserve biological diversity and rare or fragile ecosystems, as well as species of wild fauna and flora and their habitats;
- (b) sustaining the potential of natural resources to meet the needs of future generations;
- (c) safeguarding the life-supporting capacity of the environment; and,

- (d) avoiding, remedying, or mitigating any adverse effects of activities on the environment.

All persons and operators must comply with this Code and activities in the JMA shall be planned and conducted —

- (a) so as to minimise adverse impacts on the marine environment;
- (b) so as to avoid —
 - (i) significant adverse impacts on the marine environment;
 - (ii) detrimental changes in the distribution, abundance or productivity of species or populations of species of fauna and flora;
 - (iii) further jeopardy to endangered or threatened species; or,
 - (iv) degradation of, or substantial risk to, areas of ecological significance or scientific interest;
- (c) on the basis of information which allows prior assessment of, and informed judgment about, their possible impacts on the marine environment.

PART 2

REGULATION OF ACTIVITIES IN THE JOINT MANAGEMENT AREA

ARTICLE 4

REGULATION OF ACTIVITIES

1. No person or operator shall undertake any natural resource activity or an activity described in paragraph 2 of this Article in the JMA without the prior authorisation of the Authority.
2. The activities referred to in paragraph 1 of this Article include —

- (a) the construction, long-term mooring or anchoring, placement, alteration, extension, removal, or demolition of a structure or part of a structure on or under the seabed;
 - (b) the construction, placement, alteration, extension, removal, or demolition of submarine pipelines on or under the seabed;
 - (c) the placement, alteration, extension, or removal of submarine cables on or from the seabed;
 - (d) the causing of vibrations (other than vibrations caused by the normal operation of a ship) and explosions in a manner that is likely to have an adverse effect on marine life;
 - (e) the disturbance of the seabed or subsoil of the continental shelf in a manner that is likely to have an adverse impact on the habitats and living marine resources therein;
 - (f) the deposit of anything, including the dumping of waste or organism in, on, or under the seabed; and,
 - (g) any other activity that may be determined by the Authority.
2. For the purpose of paragraph 1, the activities referred to in this Article shall also include any change in those activities whether the change arises from an increase or decrease in the intensity of an existing activity, from the addition of an activity, the decommissioning of a facility, or otherwise.
3. Any person or operator authorised by the Authority to undertake an activity in the JMA is subject to the following:
- (a) a general obligation to avoid, remedy, or mitigate the adverse impacts of the activity on the environment; and
 - (b) an obligation to provide —
 - (i) training to, and supervision of, all employees who are

engaged in an activity in the JMA in order to ensure compliance with this Code; and

- (ii) sufficient resources to the employees to ensure compliance with this Code, including establishing appropriate management systems;
- (c) an obligation to take remedial action in the event of any incident which may or has given rise to adverse impacts on the environment;
- (d) an obligation to notify the Authority, by the fastest means of communication available and with the highest possible priority, of the occurrence of any incident which may or has given rise to adverse impacts on the environment and any remedial actions taken to address those impacts and their effectiveness; and
- (e) an obligation to contribute to the marine environment fund unless otherwise decided by the Authority.

ARTICLE 5

PREVENTION MEASURES

1. Any person or operator undertaking an activity in the JMA described in Article 4 shall implement reasonable preventative measures that are designed to reduce the risk of adverse environmental damage.

Preventative measures may include, but are not limited to —

- (a) application of Best Available Technique ('BAT') and Best Practicable Environmental Option ('BPEO') during project planning, design, implementation and decommissioning;
- (b) incorporation of appropriate structures or equipment into the design and construction of facilities and means of transportation;
- (c) incorporation of appropriate procedures into the operation or maintenance of facilities and means of transportation;

- (d) specialised training of personnel; and,
- (e) any other specific measure that may be determined by the Authority.

PART 3

ENVIRONMENTAL ASSESSMENT AND PLANNING

ARTICLE 6

INITIAL SCREENING ASSESSMENT

1. Any person or operator proposing an activity referred to in Article 4 shall submit to the Authority for its consideration, an initial screening assessment in respect of the impacts of such activities on the marine environment.

ARTICLE 7

PRELIMINARY ENVIRONMENTAL ASSESSMENT

Where an initial screening assessment carried out pursuant to Article 6 indicates that further assessment is required, or indicates that there is uncertainty concerning the nature or extent of potential impacts or, where a comprehensive environmental assessment is required in accordance with Article 8, a preliminary environmental assessment shall be prepared and submitted for consideration by the Authority.

A preliminary environmental assessment conducted in accordance with paragraph 1 of this Article shall provide sufficient detail to identify key impacts, their magnitude and significance, and to evaluate their importance for decision-making and shall include —

- (a) a description of the proposed activity, including its purpose, components, location, duration and intensity; and
- (b) consideration of possible alternatives to the proposed activity (e.g. location, process & design, scheduling, inputs, 'no project') and any impacts that the activity may have, including consideration of cumulative impacts in the light of existing and known planned activities.

If the Authority determines that a preliminary environmental assessment indicates that a proposed activity is likely to have no more than a minor or transitory impact, it may approve the activity, provided that appropriate environmental management plans and procedures are established to provide for the assessment and verification of the impact of the activity.

ARTICLE 8

COMPREHENSIVE ENVIRONMENTAL ASSESSMENT

Where a preliminary environmental assessment carried out pursuant to Article 7 indicates, or where the Authority otherwise determines, that a proposed activity is likely to have more than a minor or transitory impact, a comprehensive environmental assessment shall be prepared by the person or operator and submitted for the approval of the Authority.

Notwithstanding Articles 6 and Article 7 a comprehensive environmental assessment shall be conducted with respect to the following activities —

- (a) exploration for petroleum resources other than geophysical surveys;
- (b) field development and production of petroleum resources;
- (c) field development and production of mineral resources; and,
- (d) exploitation of other natural resources.

A comprehensive environmental assessment conducted in accordance with paragraph 1 of this Article shall include, but not necessarily be limited to —

- (a) a description of the proposed activity including its purpose, location, duration and intensity, and possible alternatives to the activity, including the alternative of not proceeding, and the consequences of those alternatives;
- (b) a description of the pre-activity (baseline) environmental conditions with which predicted changes are to be compared and a prediction of the future environmental conditions in the absence of the proposed activity;

- (c) a description of the methods and data used to forecast the impacts of the proposed activity;
- (d) estimation of the nature, extent, duration, and intensity of the likely direct impacts of the proposed activity;
- (e) identification of unavoidable impacts of the proposed activity;
- (f) consideration of possible indirect or second-order impacts of the proposed activity;
- (g) consideration of the short-term, medium-term and long-term effects of the proposed activity on existing uses and values in the JMA;
- (h) consideration of irreversible and cumulative impacts of the proposed activity in the light of existing activities and other known planned activities;
- (i) identification of measures, including monitoring programmes, that could be taken to minimise or mitigate impacts of the proposed activity and to detect unforeseen impacts that could provide early warning of any adverse effects of the activity as well as measures to deal promptly and effectively with accidents;
- (j) an identification of gaps in knowledge and uncertainties encountered in compiling the information required under this paragraph; and,
- (k) a non-technical summary of the information provided under this subsection.

Every comprehensive environmental assessment shall contain the information specified in paragraph 3 —

- (a) in such detail as corresponds to the scale and significance of the impacts that the activity may have on the environment and existing interests; and,

- (b) in sufficient detail to enable the Authority to understand the nature of the activity and its impacts on the environment and existing interests.

ARTICLE 9

CHANGES TO EXISTING ACTIVITIES

1. The assessment procedures contained in this Part shall apply to any change to an existing activity that has been approved by the Authority, irrespective of whether or not the change arises from an increase or decrease in the intensity of an existing activity, or from the addition of an activity, or arises from the decommissioning of a facility, or otherwise.
2. Where the Authority considers that significant changes to the environmental impact of the activity will result from a change of activity, the person or operator authorised to carry out the activity shall be required to undertake a separate comprehensive environmental assessment concerning the relevant activity.

ARTICLE 10

ENVIRONMENTAL MANAGEMENT SYSTEMS

All activities for which a comprehensive environmental assessment is required shall be managed in accordance with an Environmental Management System (EMS), consistent with ISO14001 or other similar internationally recognised standard, a key component of which shall be the development and implementation of an Environmental Management Plan (EMP).

ARTICLE 11

ENVIRONMENTAL MONITORING

Regular and effective monitoring shall be undertaken by the person or operator authorised to carry out an on-going activity for the purpose of assessing the impacts of such activity, including the verification of predicted impacts.

Regular and effective monitoring shall be undertaken by the person or operator authorised to carry out an activity to facilitate early detection of

possible unforeseen effects of activities carried out both within and outside the JMA on the marine environment.

The person or operator authorised to carry out an activity shall maintain records of all monitoring undertaken in accordance with this Article, which shall be made available for inspection by the Authority at any time.

PART 4 - ENVIRONMENTAL DAMAGE AND LIABILITY

ARTICLE 12 ENVIRONMENTAL DAMAGE

Any person or operator undertaking any activity in the JMA shall ensure that such activity is undertaken in order to minimise disturbance of and impacts to marine habitats and species and —

- (a) that such activity shall be undertaken so as to avoid or minimise disturbance to critical habitats of vulnerable, endangered or critically endangered species or any species designated as legally protected by the Authority or under the national laws of the Contracting States;
- (b) facilities should be designed to minimise attraction to wildlife; and,
- (c) facilities and infrastructure should not be constructed in a manner that would impair wildlife movement within the JMA.

Where activities are undertaken in, or in the vicinity of, sensitive environments or areas of the JMA that have been designated by the Authority in a marine plan as areas that are important and subject to specific requirements:

- (a) the physical footprint of all temporary and permanent facilities shall be minimised to reduce environmental impacts;
- (b) activities shall be undertaken so as to avoid large-scale physical disturbance; and,

- (c) on completion of operations, disturbed sites shall be rehabilitated to the pre-disturbed state to the best extent practicable.

Where physical disturbance is unavoidable, long-term or irreversible, consideration should be given to other forms of environmental remediation or enhancement, including in adjoining areas with the object and purpose being to ensure that such measures achieve a zero net environmental footprint.

Any person or operator that causes an imminent threat of environmental damage arising from a major environmental incident, must immediately:

- (a) take all practicable steps to prevent the damage; and,
- (b) notify all relevant details to the Authority.

The Authority may serve a notice on the Operator that —

- (a) describes the threat;
- (b) specifies the measures required to prevent the environmental damage occurring; and,
- (c) requires the Operator or person to take those measures, or measures at least equivalent to them, within the period specified in the notice.

Any person or operator of an activity that has caused actual environmental damage, must immediately:

- (a) take all practicable steps to prevent further damage; and
- (b) notify all relevant details of the damage and the steps taken to the Authority.

Where environmental damage has not yet occurred but there is an imminent threat of such damage occurring, the operator shall, without delay, take the necessary preventive measures.

ARTICLE 13

LIABILITY FOR DAMAGE ARISING FROM MAJOR ENVIRONMENTAL INCIDENTS

The principle of Strict Liability apply to the person or operator in respect of damage to the marine environment that arises from a major environmental incident.

When a major environmental incident arises from the activities of two or more operators, they shall be jointly and severally liable, except that an Operator which establishes that only part of the environmental incident results from its activities shall be liable in respect of that part only.

ARTICLE 14

EXCEPTIONS FROM LIABILITY

A person or operator shall not be liable under Article 13 for damage to the marine environment arising from a major environmental incident where it is proven that the incident was caused by —

- (a) an act or omission necessary to protect human life or safety;
- (b) an event of an exceptional character, which could not have been reasonably foreseen, either generally or in the particular case, provided all reasonable preventative measures have been taken that are designed to reduce the risk of environmental emergencies and their potential adverse impact;
- (c) an act of terrorism; or,
- (d) an act of belligerency against the activities of the operator.

ARTICLE 15

RESPONSE ACTIONS

All persons and operators shall take prompt and effective response action to environmental emergencies arising from their activities.

Any person or operator that fails to take prompt and effective response action to prevent potential, or to respond to actual environmental damage arising from major environmental incidents arising from or connected to their activities, shall be liable to pay the costs of any response action taken by Contracting States.

ARTICLE 16 COMPENSATION

In addition to the costs associated with response actions referred to in Article 15, the person or operator shall pay any business or individual compensation where such business or persons have incurred expense, or suffered economic loss or property damage as a result of a major environmental incident.

The compensation payable under paragraph 1 of this section shall be commensurate with the loss incurred and shall take into account *inter alia* the following criteria —

- (a) the geographic proximity between the claimant's activities and the contamination;
- (b) the degree to which the claimant is economically dependent on an affected natural resource;
- (c) the extent to which the claimant's business forms an integral part of economic activities in the area which is directly affected by the contamination;
- (d) the scope available for the claimant to mitigate his loss; and,
- (f) the effect of any concurrent causes contributing to the claimant's loss.

ARTICLE 17 ENVIRONMENTAL REMEDIATION

Where environmental damage has been caused by a person or Operator referred to Article 12, the Authority must estimate of the needs and costs of restoring the affected natural resources or environmental services.

The person or Operator responsible for the damage must submit proposals, within a time specified by the Authority, for measures that will achieve the remediation of the environmental damage, including —

- (a) the measures necessary for remediation of the damage, together with a justification;
- (b) the period within which those measures must be taken; and,
- (c) any additional monitoring or investigative measures that the responsible operator must carry out during remediation.

The Operator shall bear the full costs for the preventive and remedial actions taken pursuant to Articles 12 and 17 respectively.

ARTICLE 18

LIMITS OF LIABILITY

The person or operator shall be entitled to limit liability for each installation and each incident to the amount of two hundred million dollars (US\$200,000,000.00).

Notwithstanding paragraph 1 of this Article, this Article shall not affect —

- (a) the liability or right to limit liability under any applicable international limitation of liability treaty; or,
- (b) the application of a reservation made under any such treaty to exclude the application of the limits therein for certain claims.

Liability shall not be limited where it is proved that the major environmental incident resulted from an act or omission of the operator, committed with the intent to cause such emergency, or recklessly and with knowledge that such an incident would probably result from the act or omission.

ARTICLE 19

INSURANCE AND OTHER FINANCIAL SECURITY

All persons or operators undertaking activities in the JMA pursuant to Article 4 shall maintain, and demonstrate to the satisfaction of the Authority,

insurance or other financial security, such as the guarantee of a bank or similar financial institution, to cover liability under Article 15 up to the applicable limits set out in Article 17.

ANNEX I

PREVENTION AND CONTROL OF POLLUTION RESULTING FROM EXPLORATION AND EXPLOITATION OF THE CONTINENTAL SHELF

PART 1 - Preliminary

ARTICLE 1 INTERPRETATION

For the purposes of this Annex —

“Administration” means the relevant agency of the government of the state —

- (a) under whose authority an offshore installation is operating; or
- (b) whose flag the offshore installation is entitled to fly;

“Approved” means approved by the Designated Authority;

“Authorized organisation” means an organisation that has entered into a memorandum of agreement with the Contracting States —

- (a) in accordance with the International Maritime Organisation Assembly Resolution A.739(18) and the Annexes thereto entitled Guidelines for the Authorisation of Organisations Acting on Behalf of the Administration; and
- (b) governing the undertaking of particular survey and certification functions by that organisation's employees under the Act and regulations;

“Best practicable option” means the best method of preventing or

minimizing adverse effects on the environment having regard to, amongst other things —

- (a) the nature of the discharge or emission and the sensitivity of the receiving environment to adverse impacts;
- (b) the financial implications and the effects on the environment of that option when compared with other options; and
- (c) the current state of technical knowledge and the likelihood that the option can be successfully applied;

“Cuttings” means solid material removed from drilled rock together with any solids and liquids derived from any adherent drilling fluids;

“Discharge” —

- (a) includes any escape, release, disposal, spilling, leaking, pumping, emitting or emptying;
- (b) does not include —
 - (i) dumping in accordance with approval given by the Authority in accordance with Annex II of this Code; or
 - (ii) release of hazardous substances for the purposes of legitimate scientific research in to pollution abatement and control, and discharged shall be construed accordingly;

“Dispersant” means any substance used or intended to be used for the dispersal or emulsification of an oil spill in the sea;

“Emergency response procedures” means those procedures of an approved Discharge Management Plan prepared or required to be prepared in accordance with clause 2 of Schedule 1;

“Garbage” —

- (a) means any victual, domestic or operational waste —
 - (i) generated during the normal operation of the installation; and
 - (ii) liable to be disposed of continuously or periodically; but
- (b) does not include
 - (i) fresh fish or parts of fresh fish;
 - (ii) any substance defined or listed in any Annex to MARPOL other than Annex V;

“Hazardous substance” means substances which fall into one of the following categories —

- (a) substances or groups of substances that are toxic, persistent and liable to bioaccumulate;
- (b) other substances or groups of substances which are assessed by the Authority as requiring a similar approach as substances referred to in (a) even if they do not meet all the criteria for toxicity, persistence and bioaccumulation, but which give rise to an equivalent level of concern;
- (c) any solution containing substances categorized under paragraph (i) or (ii) above; and
- (d) oil.

“Installation” means offshore installation;

“IOPP Certificate” means an International Oil Pollution Prevention Certificate issued under Annex I of MARPOL 73/78;

“Marine oil spill” means any actual or probable release, discharge or escape of oil into the marine environment;

“MARPOL 73/78” means the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto; and includes any subsequent protocol, amendment or revision of that convention accepted or ratified by the Contracting States;

“Non-aqueous drilling fluids [NAF]” means oil-based and synthetic based drilling fluids;

“Offshore installation” includes —

- (a) any artificial structure (including a floating structure that is not a ship) used or intended to be used in or on, or anchored or attached to, the seabed for the purpose of the exploration for, or the exploitation or associated processing of, petroleum;
- (b) for the purposes of Articles 2-9, 19 and 20, a pipeline permanently attached to an offshore installation;

“Oil” —

- (a) means petroleum in any form including crude oil, fuel oil, sludge, oil refuse and refined products; and
- (b) any oily mixture;

“Oil-based drilling fluids (OBF)” means those liquids, used in drilling operations to cool and lubricate the bit and to control well pressure, where the continuous phase and suspended medium for solids is a water immiscible fluid that is oil-based (normally low aromatic and paraffinic oils);

“Oil spill” means any actual or probable release, discharge or escape of oil;

“Oily mixture” means a mixture with any oil content;

“OSPAR” means the OSPAR Commission, being the forum through which the Contracting Parties to the Convention for the Protection of

the marine Environment of the North-East Atlantic (OSPAR Convention) cooperate;

“Petroleum” means —

- (a) any naturally occurring hydrocarbon (other than coal), whether in a gaseous, liquid, or solid state; or
- (b) any naturally occurring mixture of hydrocarbons (other than coal), whether in a gaseous, liquid, or solid state; or
- (c) any naturally occurring mixture of 1 or more hydrocarbons (other than coal), whether in a gaseous, liquid, or solid state, and 1 or more of the following, namely, carbon dioxide, helium, hydrogen sulphide, or nitrogen; and

includes —

- (a) any petroleum that has been mined or otherwise recovered from its natural condition; or
- (b) any petroleum that has been mined or otherwise recovered but has been returned to a natural reservoir for storage purposes in the same or an adjacent area;

“Produced water” means water which is produced in oil and/or gas production operations and includes formation water, condensation water and re-produced injection water; it also includes water used for desalting oil;

“Substance” means a chemical element or compound or a mixture or solution composed of two or more elements or compounds;

“Surveyor” means a surveyor employed by an authorised organisation;

“Synthetic-based drilling fluid (SBF)” means those liquids, used in drilling operations to cool and lubricate the bit and to control well

pressure, where the continuous phase and suspended medium for solids is a water immiscible fluid which comprises highly refined mineral oil-based fluids or fluids derived from vegetable and animal sources; and

“Water-based drilling fluids (WBF)” means those liquids, used in drilling operations to cool and lubricate the bit and to control well pressure, where the continuous phase and suspended medium for solids is a sea water or a water miscible fluid.

ARTICLE 2 APPLICATION

This Annex applies to every offshore installation operated within the JMA.

PART 2 - DISCHARGE MANAGEMENT PLANS

ARTICLE 3 REQUIREMENT FOR A DISCHARGE MANAGEMENT PLAN

1. No person may operate an offshore installation without the Authority's written approval of a Discharge Management Plan having the contents prescribed in Schedule 1 of this Annex.
2. The Discharge Management Plan required under paragraph 1 of this Article may be submitted either as a separate document or as an integral part of a wider Environmental Management Plan required pursuant to Article 10 of this Code as appropriate.

ARTICLE 4 APPLICATION FOR APPROVAL OF A DISCHARGE MANAGEMENT PLAN

1. Every application for approval of a Discharge Management Plan:
 - (a) must be in English;
 - (b) may be made by letter or in such other form as the Authority may allow;

- (c) must include the applicant's —
 - (i) address in Mauritius or Seychelles;
 - (ii) telephone number;
 - (iii) fax number (if any);
 - (iv) email address (if any);
 - (d) must be made —
 - (i) at least 3 months before the date on which the operations are due to begin or the existing approval expires; or
 - (ii) within such lesser period as the Authority considers appropriate;
 - (e) must include the contents of the proposed Discharge Management Plan in —
 - (i) hard copy; and
 - (ii) an electronic form acceptable to the Authority.
2. The Authority may require any additional information it considers necessary to support an application for approval of a Discharge Management Plan.
3. If the Authority requires any additional information under paragraph 2 of this Article, the Authority must advise the applicant, in writing, of:
- (a) the details of the additional information that is required; and
 - (b) the reason(s) why the information is required, no later than 15 working days from the date of receipt of the application.

ARTICLE 5

APPROVAL AND DURATION OF A DISCHARGE MANAGEMENT PLAN

1. If the Authority is satisfied that a proposed Discharge Management

Plan complies with the requirements of Schedule 1, the Authority may approve the Discharge Management Plan valid for a period of 3 years.

2. Application for the renewal of a Discharge Management Plan shall be submitted to the Authority at least 3 months before the expiry of the existing Discharge Management Plan.

ARTICLE 6

CUSTODY OF A DISCHARGE MANAGEMENT PLAN

A copy of the approved Discharge Management Plan and the Authority's written approval must be kept and made available on request on every installation to which the plan applies at all times.

ARTICLE 7

MODIFICATIONS TO A DISCHARGE MANAGEMENT PLAN

1. Except as provided in paragraph 3 of this Article, the Operator must apply to the Authority for approval of any modification to the Discharge Management Plan, for example, when the Operator proposes to —
 - (a) alter the use or layout of the installation in such a way that could increase the risk of a spill of oil or other hazardous substance;
 - (b) use a hazardous substance not approved in the plan.
2. The provisions of Article 4 and Schedule 1 of this Annex apply to an application for modification(s) to a Discharge Management Plan except that if the only modification applied for is for the use of a hazardous substance only information pertaining to that substance is required to be submitted in respect of Schedule 1.
3. The Operator may make the following changes to the Discharge Management Plan without the prior approval of the Authority —
 - (a) modifications to the 24 hour contact list;

(b) re-assignment of personnel responsibilities.

4. The Operator must notify the Authority of any changes to a Discharge Management Plan within one (1) week.

ARTICLE 8

RECORD OF CHANGES TO A DISCHARGE MANAGEMENT PLAN

The Operator must keep a record of the action(s) taken to meet the obligation in paragraph 1 of Article 7.

ARTICLE 9

CONDITIONS FOR OFFSHORE INSTALLATIONS

The Operator of an offshore installation must —

- (a) ensure that personnel responsible for implementing the approved Discharge Management Plan and dealing with spills of oil and other hazardous substances receive training appropriate to their responsibilities;
- (b) keep a record of that training;
- (c) test the emergency response procedures not less than once every 12 months;
- (d) maintain access to equipment to deal with a spill, at a level appropriate to —
 - (i) the risks presented by the installation; and
 - (ii) the response options identified in the approved Discharge Management Plan; and
- (e) when called upon by the Authority justify any response option, identified in the Discharge Management Plan, as effective and achievable.

PART 3 - Operation

ARTICLE 10

DISCHARGE OF HAZARDOUS SUBSTANCES OTHER THAN OIL

The Operator must ensure that no hazardous substance is discharged from any offshore installation, unless that hazardous substance is:

- (a) specified in the approved Discharge Management Plan for that installation; and
- (b) discharged in accordance with that plan.

ARTICLE 11

PERMITTED DISCHARGES OF PRODUCED WATER, BALLAST WATER AND OFFSHORE PROCESSING DRAINAGE

1. The Operator must, by use of the best practicable option, ensure that the dispersed oil content of produced water, ballast water or offshore processing drainage discharged from an offshore installation:
 - (a) does not exceed 40 milligrams per litre; and
 - (b) averages less than 30 milligrams per litre every calendar month.
2. If the Operator is unable to comply with paragraph 1 of this Article by use of the best practicable option, the Authority may authorise the discharge and require the Operator to adopt additional measures to prevent possible pollution of the marine environment.
3. For the purposes of paragraph 1(b) of this Article, the Authority may allow a limit greater than 40 milligrams per litre if it considers it necessary for geological, technical or safety reasons.

ARTICLE 12

USE AND DISCHARGE OF DRILLING FLUIDS

1. Subject to the requirements in paragraph 2 of this Article, the Operator

must ensure that no drilling fluid is used on an offshore installation unless that fluid is —

- (a) specified in the installation's approved Discharge Management Plan; and
- (b) discharged in accordance with that plan.

2. For the purposes of this Annex, the following performance standards shall apply:

- (a) the use of diesel-OBF is prohibited;
- (b) the use of NAF in the upper part of the well is not permitted unless their use is necessary for geological or safety reasons;
- (c) the discharge of whole NAF and cuttings contaminated with NAF at a concentration greater than 1% fluid by weight on dry cuttings, is prohibited; and
- (d) the mixing of NAF with cuttings to achieve this standard for the purpose of disposal is not acceptable.

3. Notwithstanding the requirements set out in paragraph 2 of this Article, the Authority may allow the discharge of cuttings contaminated with SBF at a concentration greater than 1% fluid by weight on dry cuttings in exceptional circumstances, provided it can be demonstrated in the Discharge Management Plan that —

- (a) There is no alternative to the use of SBF; and
- (b) The discharge of cuttings contaminated with SBF is the best practicable option for their disposal.

4. Where OBF and SBF are used, the offshore installation shall have a containment and drainage system which allows the collection and treatment of all run off water which may be contaminated with drilling fluids or their by-products.

ARTICLE 13

PERMITTED DISCHARGE OF GARBAGE

No person may discharge garbage from an offshore installation except food waste that —

- (a) has passed through a comminuter or grinder; and
- (b) is capable of passing through a screen with openings no greater than 25 mm².

ARTICLE 14

PERMITTED DISCHARGES OF OIL AND ONLY MIXTURES

Except as provided in Article 15, oil and oily mixture that drains from the machinery spaces, oil tanks and other parts of the installation may be discharged, if —

- (a) the oil content of the discharge without dilution does not exceed 15 parts per million; and
- (b) the installation has in operation the equipment required by Article 16.

ARTICLE 15

OIL RESIDUES THAT CANNOT BE DISCHARGES

The Operator must ensure that any oil residue that cannot be discharged into the sea in compliance with Article 14 of this Annex is:

- (a) retained on board the installation;
- (b) offloaded as cargo; or
- (c) discharged to a reception facility.

ARTICLE 16

OIL FILTERING EQUIPMENT

1. The Operator of an offshore installation must ensure that it is fitted with oil filtering equipment:

- (a) of a design approved by the Authority or the Administration of another state party to MARPOL 73/78; and
- (b) to ensure that any oily mixture that —
 - (i) drains from the machinery spaces, oil tanks and other parts of the installation; and
 - (ii) is discharged into the sea,

has an oil content not exceeding 15 parts per million, after passing through the equipment.

2. In the case of an offshore installation of 10,000 gross tons or more, the oil filtering equipment provided in accordance with paragraph 1 of this Article must be fitted with:

- (a) an alarm to indicate; and
- (b) arrangements to ensure that any discharge of oily mixture is automatically stopped, when the oil content of the effluent exceeds 15 parts per million.

3. The requirements of paragraphs 1 and 2 shall not apply if:

- (a) the Authority is satisfied that oily mixtures can be adequately stored on board and subsequently discharged to reception facilities ashore or otherwise satisfactorily disposed of without being discharged into the sea; and
- (b) oily mixtures are so stored and disposed or discharged.

ARTICLE 17

SLUDGE TANKS

The Operator of an offshore installation must ensure that it is fitted with a tank or tanks:

- (a) large enough to hold all oily residues that cannot otherwise be dealt with in accordance with this Part; and
- (b) designed and constructed so as to allow them to be cleaned and emptied at a reception facility.

ARTICLE 18

OIL RECORD BOOK

1. The Operator must ensure that the installation is provided with an oil record book in a form approved by:
 - (a) the Authority; or,
 - (b) the Administration of a state party to MARPOL 73/78.
2. The Operator must ensure that an entry is made in the Oil Record Book on every occasion on which any of the following operations takes place on the installation:
 - (a) ballasting or cleaning of oil fuel tanks;
 - (b) discharge of dirty ballast or cleaning water from oil fuel tanks;
 - (c) discharge overboard or other disposal of oily water that has accumulated in machinery spaces or other parts of the installation;
 - (d) loading of oil;
 - (e) internal transfer of oil;
 - (f) unloading of oil;
 - (g) ballasting of oil storage tanks;
 - (h) cleaning of oil storage tanks;
 - (i) discharge of dirty ballast or cleaning water from oil storage tanks; and,

- (j) the dispersed oil content of produced water, ballast water or offshore processing drainage —
 - (i) is measured;
 - (ii) exceeds 50 milligrams per litre; or
 - (iii) averages more than 30 milligrams per litre in any calendar month, and the entry must include the dispersed oil content in milligrams per litre;
 - (k) disposal of oily residues (sludge).
3. The Operator must ensure that the daily volume in litres of discharged production water, displacement water or offshore processing drainage is recorded in the installation's oil record book.
4. The Operator must ensure that a statement is made in the installation's oil record book of the circumstances of, and the reasons for:
- (a) any discharge into the sea of oil or oily mixture for the purpose of —
 - (i) securing the safety of the offshore installation; or
 - (ii) saving life at sea;
 - (b) any escape into the sea of oil or oily mixture resulting from —
 - (i) damage to the offshore installation or its equipment; or
 - (ii) resulting from any other accidental or exceptional occurrence;
 - (c) any discharge into the sea of substances containing oil when being used for the purpose of combating specific pollution incidents.

5. Every entry or statement, required to be made in the installation's oil record book, must be —
 - (a) fully recorded without delay;
 - (b) signed by the person or persons in charge of the operation(s) concerned; and
 - (c) in English.
6. Every completed page of the oil record book must be signed by the person on board the offshore installation who has overall responsibility for its operations.
7. The Operator must ensure that the installation's oil record book is kept:
 - (a) on board the installation, except in the case of an unmanned offshore installation under tow; and
 - (b) in such a place as to be readily available for inspection at all reasonable times.
8. The Operator must ensure that a true copy of every completed page of the installation's oil record book is forwarded to the Authority within 3 weeks of the end of the month in which it was completed.
9. Every oil record book must be preserved by the Operator of the installation for a period of three years after the last entry is made in it.

ARTICLE 19

REPORTING OF SPILLS

1. Immediately after any spill of oil or other hazardous substance to the marine environment, the Operator of an offshore installation must report the spill to the Authority by the fastest means of communication available and with the highest possible priority, in accordance with the reporting requirements set out in the Discharge Management Plan.

2. If the person responsible for implementing the emergency response procedures considers that a marine oil spill cannot be contained or cleaned up using the resources available to that person, he or she must report that fact to the Authority by the fastest means of communication available and with the highest possible priority using the procedures outlined in the Discharge Management Plan.

ARTICLE 20

ACCIDENT REPORTING

1. The Operator must report —
 - (a) any incident that occurs to the offshore installation; or
 - (b) any defect that is discovered,
 - (c) which substantially affects the integrity of the installation or the efficiency or completeness of the equipment covered by this Part.
2. The Operator must ensure that every report required under paragraph 1 of this Article is made as soon as possible to:
 - (a) the Authority; and
 - (b) the authorised organisation that issued the installation's IOPP Certificate.
3. After a report has been made under paragraph 1 of this Article, the Authority or the authorised organisation that issued the installation's IOPP Certificate may require that the installation be surveyed to ensure compliance with the requirements of these regulations and the installation's IOPP Certificate.

PART 4 - International Oil Pollution Prevention Certificates

ARTICLE 21

REQUIREMENT FOR AN OFFSHORE INSTALLATION TO HAVE AN IOPP CERTIFICATE

1. The Operator of an offshore installation must ensure that there is, held in respect of the installation, a valid IOPP Certificate:

- (a) issued or renewed in accordance with Article 23; or
 - (b) issued by or on behalf of a state party to MARPOL 73/78 other than Mauritius or Seychelles.
- 2. The Operator must ensure that the IOPP Certificate held in respect of the installation is —
 - (a) carried on board the installation at all times; and
 - (b) made readily available for inspection by the Authority.

ARTICLE 22

SURVEYS AND INSPECTIONS PRIOR TO THE ISSUE, RENEWAL OR ENDORSEMENT OF AN IOPP CERTIFICATE

- 1. The Operator of an offshore installation must ensure that the periodic surveys detailed in paragraphs 2 and 3 of this Article are carried out by a surveyor approved by the Authority or other authorised organization in respect of that installation.
- 2. Initial and renewal surveys must be carried out to ensure that the structure, equipment, systems, piping, fittings, arrangements, record books, emergency response procedures and material fully comply with the requirements of this Annex.
- 3. Annual surveys must be carried out to ensure that the structure, equipment, systems, piping, fittings, arrangements, record books, emergency response procedures and material —
 - (a) have been properly maintained;
 - (b) have not been altered without the approval of the Authority or a surveyor as required; and,
 - (c) remain satisfactory for service.
- 4. Intermediate surveys must be carried out to ensure that:

- (a) the equipment and associated pump and piping systems, including oil discharge monitoring and control systems, oily water separating equipment and oil filtering systems are in good working order and fully comply with the requirements of this Part; and
- (b) the structure, equipment, systems, piping, fittings, arrangements, record books, emergency response procedures and material have not been altered without the approval of the Authority or a surveyor as required.

ARTICLE 23

ISSUE, DURATION AND RENEWAL OF AN IOPP CERTIFICATE FOR AN OFFSHORE INSTALLATION

An IOPP Certificate, including a supplement:

- (a) must be in the form prescribed in Annex 1 of MARPOL 73/78;
- (b) may be issued for a period not exceeding 5 years; and
- (c) is subject to the following conditions —
 - (i) no significant alterations may be made in the installation's structure, equipment, systems, fittings, arrangements and material without the approval of a surveyor, except the direct replacement of such equipment and fittings;
 - (ii) the satisfactory completion of the surveys required under Article 22 of this Annex;
 - (iii) the installation has on board the oil record book(s) required to be kept by Article 18 of this Annex; and
 - (iv) the installation has on board an approved Discharged Management Plan.

ARTICLE 24

CONDITIONS OF THE IOPP CERTIFICATE

A surveyor may give his approval to the issue, renewal or endorsement of an IOPP Certificate —

- (a) unconditionally; or
- (b) subject to such conditions as the surveyor sees fit in the interests of maritime safety and marine environment protection.

ARTICLE 25

FAILURE TO MEET STANDARDS REQUIRED FOR RENEWAL OR ENDORSEMENT OF AN IOPP CERTIFICATE

1. If a surveyor, who has carried out a renewal or annual survey of an offshore installation, determines that the condition of the offshore installation's equipment:
 - (a) does not correspond substantially with the particulars of the installation's IOPP Certificate; or
 - (b) presents an unreasonable threat of harm to the marine environment, the surveyor must —
 - (i) immediately instruct the Operator of the offshore installation to take corrective action;
 - (ii) notify the Authority of the corrective action required; and
 - (iii) not renew or endorse the installation's IOPP Certificate.
2. If the corrective action required under paragraph 1 of this Article is not taken, the Authority may suspend or impose conditions on the installation's IOPP Certificate.

ARTICLE 26

CONDITION AFTER SURVEY

1. The Operator of an offshore installation must ensure that the installation's equipment is maintained in a condition that —

- (a) complies with the provisions of this Part;
 - (b) corresponds substantially with its IOPP Certificate; and
 - (c) does not present an unreasonable threat of harm to the marine environment.
2. The Operator must ensure that no change is made to an installation's structure, equipment, systems, fittings, arrangements or material covered by a survey, without the approval of a surveyor, except the direct replacement of such equipment and fittings.

SCHEDULE 1

CONTENTS OF A DISCHARGE MANAGEMENT PLAN

Risk Identification Assessment and Prevention of Pollution

1. With respect to oil, every Discharge Management Plan must include:
- (a) details of the location of the offshore installation and of the field to which the application relates;
 - (b) up to date and accurate drawings or plans showing —
 - (i) the general arrangement of the installation, in particular, the places and systems associated with the storage or transfer of fuels including tank capacity, filling arrangements, isolation valves and drainage systems highlighting the critical isolation points; and
 - (ii) those areas of the installation identified as presenting the greatest risk of a marine oil spill;
 - (c) details of the proposed operations at the installation;
 - (d) characterisation of the oil(s) produced, stored and used at the installation including but not limited to —

- (i) oil type
 - (ii) viscosity
 - (iii) density (specific gravity)
 - (iv) pour point
 - (v) wax content
 - (vi) asphaltene content
 - (vii) potential spill volumes;
 - (e) a detailed description of all the processes and activities which present a risk of pollution from an oil spill, with a list of specific procedures to reduce the risk of an oil spill;
 - (f) an assessment of the weathering and persistence (fate) of oil (if spilled on water) at different temperatures and wind speeds. This should include laboratory analysis to determine how the oil will behave once spilled;
 - (g) information on the nature and effectiveness of dispersants on individual oils;
 - (h) a detailed description (including maps) of those areas identified as at risk of environmental damage as a result of an oil spill including possible social, cultural and economic implications; and
 - (i) an assessment of the potential impacts of spilled oil including identification of the environmental, social and economic resources most at risk from oil and other hazardous materials (sensitive receptors).
2. In respect of every hazardous substance to be used on the installation, the Discharge Management Plan must also include:
- (a) particulars of the substance;
 - (b) the purpose of the substance;

- (c) evidence that the selected substance has the least hazard and lowest potential environmental impact while still being effective;
- (d) the maximum volumes of the substance that can be stored on the installation and the method of storage;
- (e) the maximum concentration of the substance to be used in combination with any other substance;
- (f) the maximum amounts of the substance to be used in specific periods;
- (g) a completed chemical data sheet containing as a minimum the information set out in Schedule 2;
- (h) the ecotoxic nature of the substance, with reference to schedule 2; and
- (i) a detailed description of those processes and activities that present a risk of accidental discharge of the substance and a list of actions to be taken and procedures in place to reduce the risk of a spill.

OPERATIONAL DISCHARGES

3. Every Discharge Management Plan must explain how the produced water, ballast water, offshore processing drainage and any other water emanating from the well product, is to be managed, including:
- (a) an assessment of the feasible alternatives for its management and disposal;
 - (b) selection of the least hazardous chemicals to minimise the toxicity of that water;
 - (c) the options to be used to reduce the volume of production water discharged to the marine environment;

- (d) the method to be used to monitor the concentration of dispersed oil in production water; and
 - (e) the procedure by which dispersed oil content, which exceeds the limits laid down in Article 11, is to be recorded in the Oil Record Book or reported in accordance with that Article.
4. Every Discharge Management Plan must explain how the discharge of drill cuttings and associated drilling fluids, is to be managed, including —
- (a) an assessment of the feasible alternatives for the disposal of spent WBF and drill cuttings from well sections drilled with either WBF or NAF;
 - (b) selection of the least hazardous chemicals to minimise the toxicity of the discharged fluids and cuttings.

EMERGENCY RESPONSE PROCEDURES FOR SPILLS OF OIL AND HAZARDOUS SUBSTANCES

4. Every Discharge Management Plan must include emergency response procedures for spills of oil and other hazardous substances, either as an integral part of the plan or as a separate Annex as appropriate.
5. Emergency response procedures must include —
- (a) guidance to ensure the safety of personnel;
 - (b) information to help personnel at the installation deal with a spill by detailing the actions necessary to stop, minimise or mitigate the effects of a spill, including procedures for —
 - (i) determining what action to take in response to a spill;
 - (ii) preventing escalation of the spill;
 - (iii) stopping the discharge at its source, if possible;

- (iv) identifying the safety and environmental consequences of any remedial action; and
 - (v) determining whether the spill can be contained or cleaned up using the resources available to the Operator or any other person responsible for implementing the emergency response procedures;
- (c) an assessment of the preferred protection and clean up options and details of the response options available to the installation;
- (d) the procedure by which spills are to be reported in accordance with Article 19;
- (e) the procedure by which spills that the person responsible for implementing the emergency response procedures considers cannot be cleaned up or contained using the resources available to him or her, are to be reported in accordance with Article 19;
- (f) a list of 24-hour contact information, including that of —
 - (i) the Operator or the Operator's representative;
 - (ii) the relevant statutory authority;
 - (iii) any organisation contracted to respond to spills at the installation;
 - (iv) the person responsible for implementing the plan;
 - (v) the person responsible for co-ordinating response activities;
 - (vi) off-duty personnel with responsibilities for dealing with spills; and
 - (vii) all other persons who have interests in the vicinity of the installation that are likely to be affected by a spill from the installation;

- (g) the organisational response structure for the installation, including —
 - (i) duties of all personnel responsible for dealing with spills; and
 - (ii) positions consistent with any Incident Control System that may be prescribed in the oil spill contingency plan developed by the Authority in respect of the JMA;
- (h) the notification and mobilisation procedures to mobilise the organisation detailed in 2(g) above;
- (i) the relationship with other marine pollution emergency response systems; and
- (j) an inventory of response equipment held on the installation and personnel responsibilities for the deployment, survey and maintenance of that equipment.

SCHEDULE 2

CHEMICAL DATA SHEET

PART 1 – INTRODUCTION		
Name of Operator:		
Facility/activities to which this data sheet relates:		
PART 2 – SUBSTANCE INFORMATION		
Chemical name:	UN Number:	
Trade name(s):.....	CAS ⁴ Registry Number:.....	
Alternative name(s):	OSPAR Classification:.....	
Components:		
Name and components:	UN/CAS number of individual components:	Proportion by weight (%):

Physical/Chemical Properties (may be provided in the MSDS):			
Physical state at 20°C:		Boiling point range (°C): to	
Water	reactivity:	Melting (pour) point (°C):to	
Density at 20°C:		Water solubility: kg/m ³ at °C at pH	
Flash point (°C):		pH:undiluted diluted	
Does the preparation separate in seawater to give:		floating <input type="checkbox"/>	sinking <input type="checkbox"/>
soluble <input type="checkbox"/> materials?			
Does it have surfactant properties?:		Yes <input type="checkbox"/>	No <input type="checkbox"/>
PART 3 – SUBSTANCE USE AND DISCHARGE			
Proposed use:			
Drilling <input type="checkbox"/>	Production <input type="checkbox"/>	Utilities <input type="checkbox"/>	
Completion <input type="checkbox"/>	Stimulation <input type="checkbox"/>	Other (state):	
Normal dose rate (specify units):		Frequency of treatment: /continuously	
Probable scale of use:	 tonnes/yr.	
..... kg/day,			
Discharge:			
Closed system <input type="checkbox"/>		Open system <input type="checkbox"/>	
If open system, estimated discharge as percentage of total use:			
.....			
Frequency of treatment: / continuously <input type="checkbox"/>			
Probable amount of substance/preparation discharged:			
kg/day,.....tonnes/yr.			
Duration of discharge, from to.....			
Total estimated amount of discharge (tonnes):			
Fate:			
If known, explain the likely fate of the substance/preparation discharged:			
PART 4 – MARINE TOXICITY DATA (this information may be provided in the MSDS):			
Results:		Test protocol/species:	
Acute toxicity:	
Chronic toxicity:	
Bioconcentration	Test	Tissue	Depuration Half Life
BCF	Concentration	Concentration	
.....
Aerobic	Day	Test Substance	Reference Substance %
biodegradability	1	%	
(organic and	2		
organometallic	3		
substances only)	4		

ANNEX II
PREVENTION AND CONTROL OF POLLUTION RESULTING
FROM BY DUMPING FROM SHIPS AND AIRCRAFT OR
INCINERATION AT SEA

PART 1 - Preliminary

ARTICLE 1
INTERPRETATION

For the purposes of this Annex —

“Ships and aircraft” means waterborne or airborne craft of any type whatsoever;

“Wastes or other matter” means material and substances of any kind, form or description;

“Dumping” means —

- (a) any deliberate disposal at sea of wastes or other matter from ships or aircraft;
- (b) any deliberate disposal at sea of ships or aircraft;
- (c) any deliberate disposal or storage and burial of wastes or other matter on the seabed or in the marine subsoil from ships or aircraft;

“Dumping” does not include —

- (a) the disposal at sea of wastes or other matter incidental to, or derived from, the normal operations of vessels or aircraft and their equipment, other than wastes or other matter transported by or to vessels or aircraft, operating for the purpose of disposal of such matter, or derived from the treatment of such wastes or other matter on such vessels or aircraft;
- (b) placement of matter for a purpose other than the mere disposal

thereof, provided that such placement is not contrary to the aims of this Protocol;

- (c) the discharge of any substance that is addressed under Annex I of this Code.

“IAEA” means the United Nations International Atomic Energy Agency;

“Incineration at sea” means the deliberate combustion of wastes or other matter in the JMA, with the aim of thermal destruction and does not include activities incidental to the normal operations of ships or aircraft;

“Organisation” means the United Nations' International Maritime Organization.

ARTICLE 2 APPLICATION

These regulations apply to dumping activities from ships and aircraft operating within the JMA.

PART 2 - WASTE DISPOSAL

ARTICLE 3 DUMPING OF WASTE

1. The dumping of wastes or other matter, with the exception of those listed in paragraph 2 of this Article, is prohibited.
2. The following is the list referred to in the preceding paragraph:
 - (a) dredged material;
 - (b) sewage sludge;
 - (c) fish waste, or material resulting from industrial fish processing operations;
 - (d) vessels and platforms or other man-made structures at sea;

- (e) inert, inorganic geological material;
 - (f) organic material of natural origin; and
 - (g) bulky items primarily comprising iron, steel, concrete and similarly non-harmful materials for which the concern is physical impact, and limited to those circumstances where such wastes are generated at locations, such as small islands with isolated communities, having no practicable access to disposal options other than dumping.
3. The wastes or other matter listed in paragraph 2 of this Article may be considered for dumping, provided that material capable of creating floating debris or otherwise contributing to pollution of the marine environment has been removed to the maximum extent and provided that the material dumped poses no serious obstacle to fishing or navigation.
4. Notwithstanding the above, materials listed in paragraph 2 of this Article containing levels of radioactivity greater than *de minimis* (exempt) concentrations as defined by the IAEA, shall not be considered eligible for dumping.

ARTICLE 4

DUMPING PERMITS

5. The dumping of the wastes or other matter listed in paragraph 3(2) of this Article requires a prior permit from the Authority.
6. An applicant for a permit referred to in paragraph 1 of this Article shall demonstrate that they have addressed all of the actors set forth in the Schedule to this Annex.

ARTICLE 5

INCINERATION AT SEA

Incineration at sea is prohibited.

ARTICLE 6

FORCE MAJEURE

The provisions of Articles 3, 4 and 5 shall not apply in case of force majeure due to stress of weather or any other cause when human life or the safety of a ship or aircraft is threatened. Such dumping shall immediately be reported to the Authority, the Organisation and, either through the Organisation or directly, to any Party or Parties likely to be affected, together with full details of the circumstances and of the nature and quantities of the wastes or other matter dumped.

SCHEDULE 3

ASSESSMENT OF WASTES OR OTHER MATTER THAT MAY BE CONSIDERED FOR DUMPING

GENERAL

The acceptance of dumping under certain circumstances shall not remove the obligations under this Annex to make further attempts to reduce the necessity for dumping.

WASTE PREVENTION AUDIT

1. The initial stages in assessing alternatives to dumping should, as appropriate, include an evaluation of —
 - (a) types, amounts and relative hazard of wastes generated;
 - (b) details of the production process and the sources of wastes within that process; and
 - (c) feasibility of the following waste reduction/prevention techniques —
 - (i) product reformulation;
 - (ii) clean production technologies;

- (iii) process modification;
 - (iv) input substitution; and
 - (v) on-site, closed-loop recycling.
- 2. In general terms, if the required audit reveals that opportunities exist for waste prevention at source, an applicant is expected to formulate and implement a waste prevention strategy, in collaboration with relevant local and national agencies, which includes specific waste reduction targets and provision for further waste prevention audits to ensure that these targets are being met. Permit issuance or renewal decisions shall assure compliance with any resulting waste reduction and prevention requirements.
- 3. For dredged material and sewage sludge, the goal of waste management should be to identify and control the sources of contamination. This should be achieved through implementation of waste prevention strategies and requires collaboration between the relevant local and national agencies involved with the control of point and non-point sources of pollution. Until this objective is met, the problems of contaminated dredged material may be addressed by using disposal management techniques at sea or on land.

CONSIDERATION OF WASTE MANAGEMENT OPTIONS

- 1. Applications to dump wastes or other matter shall demonstrate that appropriate consideration has been given to the following hierarchy of waste management options, which implies an order of increasing environmental impact —
 - (a) re-use;
 - (b) off-site recycling;
 - (c) destruction of hazardous constituents;
 - (d) treatment to reduce or remove the hazardous constituents; and
 - (e) disposal on land, into air and in water.

1. An applicant shall assess whether appropriate opportunities exist to re-use, recycle or treat the waste without undue risks to human health or the environment or disproportionate costs. The practical availability of other means of disposal should be considered in the light of a comparative risk assessment involving both dumping and the alternatives. Failure to do so may result in the application being declined.

CHEMICAL, PHYSICAL AND BIOLOGICAL PROPERTIES

1. A detailed description and characterisation of the waste is an essential precondition for the consideration of alternatives and the basis for a decision as to whether a waste may be dumped. If a waste is so poorly characterised that proper assessment cannot be made of its potential impacts on human health and the environment, that waste shall not be dumped.
2. Characterisation of the wastes and their constituents shall take into account —
 - (a) origin, total amount, form and average composition;
 - (b) properties: physical, chemical, biochemical and biological;
 - (c) toxicity;
 - (d) persistence: physical, chemical and biological; and
 - (e) accumulation and biotransformation in biological materials or sediments.

DUMP-SITE SELECTION

Information required to select a dump-site shall include —

- (a) physical, chemical and biological characteristics of the water-column and the seabed;

- (b) location of amenities, values and other uses of the sea in the area under consideration;
- (c) assessment of the constituent fluxes associated with dumping in relation to existing fluxes of substances in the marine environment; and
- (d) economic and operational feasibility.

ASSESSMENT OF POTENTIAL EFFECTS

1. Assessment of potential effects should lead to a concise statement of the expected consequences of the sea or land disposal options, i.e. the "Impact Hypothesis". It provides a basis for deciding whether to approve or reject the proposed disposal option and for defining environmental monitoring requirements.
2. The assessment for dumping should integrate information on waste characteristics, conditions at the proposed dump-site(s), fluxes, and proposed disposal techniques and specify the potential effects on human health, living resources, amenities and other legitimate uses of the sea. It should define the nature, temporal and spatial scales and duration of expected impacts based on reasonably conservative assumptions.
3. An analysis of each disposal option should be considered in the light of a comparative assessment of the following concerns: human health risks, environmental costs, hazards, (including accidents), economics and exclusion of future uses. If this assessment reveals that adequate information is not available to determine the likely effects of the proposed disposal option then this option should not be considered further. In addition, if the interpretation of the comparative assessment shows the dumping option to be less preferable, a permit for dumping should not be given.
4. Each assessment should conclude with a statement supporting a decision to issue or refuse a permit for dumping.

ANNEX III
GUIDELINES FOR MINIMISING THE RISK OF INJURY
AND DISTURBANCE TO MARINE MAMMALS
FROM SEISMIC SURVEYS

PART 1 - Preliminary

ARTICLE 1
INTERPRETATION

For the purposes of this Annex —

“Acoustic source” means a source of acoustic pressure waves used, or intended to be used, for the purpose of an acoustic seismic survey; and in relation to a source vessel, means an acoustic source on or controlled from the vessel;

“Calf/calves” means a smaller animal (less than two-thirds the body size of an adult) travelling in close association with an adult;

“Day” or “daylight hours” means between sunrise and sunset at any given location, and includes the twilight hours of dawn and dusk where there is sufficient light to make effective observations, in the opinion of the qualified marine mammal observer;

“Good sighting conditions” means in daylight hours, during visibility of more than 1.5 km, and in a sea state of less than or equal to Beaufort 3;

“Line turn” means the interval between active survey lines where the vessel manoeuvres into position for the next survey line and acquisition of seismic data ceases;

“Marine Mammal Observer (MMO)” Individual responsible for conducting visual watches for marine mammals. For some seismic surveys it may be requested that observers are trained, dedicated and / or experienced. The MMO may also be a PAM operative if trained;

“Marine mammal” means any species of cetacean or pinniped;

“Marine seismic survey” means a method of exploration geophysics that uses active acoustic sources to estimate the structure, stratigraphy and properties beneath the sea floor;

“Mitigation zone” means the area where a Marine Mammal Observer keeps watch for marine mammals (and delays the start of activity should any marine mammals be detected);

“Night” or “night-time hours” means between sunset and sunrise at any given location;

“Operational area” means the entire geographical area potentially used for acoustic source activation throughout the proposed marine survey, including seismic data acquisition lines, acoustic source testing and soft start initiation;

“Passive Acoustic Monitoring (PAM)” means a software system that utilises hydrophones to detect the vocalisations of marine mammals;

“PAM operator” means a person trained and/or experienced in the use of PAM software and hardware and marine mammal acoustics;

“Poor sighting conditions” means either at night, or during daylight visibility of 1.5 km or less, or in a sea state of greater than or equal to Beaufort 4;

“Qualified observer” means either a qualified marine mammal observer or a qualified PAM operator, trained and qualified through an accredited course and experienced in visual whale and dolphin identification and behaviour, and distance/direction of travel estimations;

“Seismic survey” means any survey that uses airguns, including 2D/3D/4D and OBC (On-Bottom Cabling) surveys and any similar techniques that use airguns;

“Shutdown” means stopping an active marine seismic survey by immediately turning off power to the acoustic source;

“Soft start” means turning on the airguns at low power and gradually and systematically increasing the output until full power is achieved (usually over a period of 20 minutes);

“Source” (of acoustic pressure waves) means any device used to create a pulse of acoustic energy in the ocean and includes airgun, boomer, electromechanical, or chemical device;

“Source vessel” means a vessel from which an acoustic source is being or is to be deployed for the purposes of a marine seismic survey.

ARTICLE 2 APPLICATION

This Annex applies to marine seismic survey operations undertaken in respect of offshore mineral exploration within the JMA.

PART2 - ASSESSING AND MINIMISING THE RISK OF INJURY

ARTICLE 3 THE PLANNING STAGE

1. When a seismic survey is being planned, the operator should take appropriate steps to determine what marine mammal species are likely to be present in the survey area and assess if there are any seasonal considerations that need to be taken into account, for example periods of migration, breeding or calving.
2. The operator should, whenever possible, implement the following best practice measures —
 - (a) If marine mammals are likely to be in the area, only commence seismic activities during the hours of daylight when visual mitigation using Marine Mammal Observers (MMOs) is possible;
 - (b) Only commence seismic activities during the hours of darkness, or low visibility, or during periods when the sea state is not

conducive to visual mitigation, if a Passive Acoustic Monitoring (PAM) system is in use to detect marine mammals likely to be in the area;

- (c) Plan surveys so that the timing will reduce the likelihood of encounters with marine mammals. For example, this might be an important consideration in certain areas/times;
 - (d) Provide trained MMOs to implement these guidelines;
 - (e) Use the lowest practicable power levels to achieve the geophysical objectives of the survey;
 - (f) Seek methods to reduce and/or baffle unnecessary high frequency noise produced by the airguns;
3. A designated marine mammal co-ordinator should be responsible for ensuring that marine mammal observations are carried out as described in these guidelines throughout the duration of seismic survey operations. This co-ordinator should be responsible for briefing all other members of the crew who are to be tasked with making and recording observations of marine mammals during operations and should be responsible for returning completed data sheets following survey completion.
4. An independent trained MMO or someone experienced in marine mammal observations should be present throughout the duration of the seismic survey.
5. Where multiple vessels are to be used during a survey, the marine mammal observer should be located on the source vessel, i.e. the vessel towing the air guns.

ARTICLE 4

MARINE MAMMAL OBSERVERS

6. The primary role of a MMO is to act as an observer for marine mammals and to recommend a delay in the commencement of seismic activity should any marine mammals be detected.

7. While acting in their designated role, MMOs will —
- (a) Give effective briefings to crew members, and establish clear lines of communication and procedures for onboard operations;
 - (b) Continually scan the water surface in all directions around the acoustic source (not the vessel) for presence of marine mammals, using a combination of the naked eye and high-quality binoculars, from optimum vantage points for unimpaired visual observations with minimum distractions;
 - (c) Use GPS, sextant, reticle binoculars, compass, measuring sticks, angle boards, or any other appropriate tools to accurately determine distances/bearings and plot positions of marine mammals whenever possible throughout the duration of sightings;
 - (d) Record and report all marine mammal sightings, including species, group size, behaviour/activity, presence of calves, distance and direction of travel (if discernible) Record sighting conditions (Beaufort Sea State, swell height, visibility, fog/rain, and glare) at the beginning and end of the observation period, and whenever the weather conditions change significantly;
 - (e) Record acoustic source power output while in operation, and any mitigation measures taken; and
 - (f) Record and report any instances that are inconsistent with this Annex.
8. While acting in their designated role, PAM operators will:
- (a) Give effective briefings to crew members, and establish clear lines of communication and procedures for onboard operations;
 - (b) Deploy, retrieve, test and optimize hydrophone arrays;
 - (c) On duty watch, concentrate on continually listening to received signals and/or monitoring PAM display screens in order to

detect vocalising cetaceans, except for when required to attend to PAM equipment;

- (d) Use appropriate sample analysis and filtering techniques;
- (e) Record and report all marine mammal detections, including, if discernible, identification of species or groups, position, distance and bearing from vessel and acoustic source;
- (f) Record type and nature of sound, time and duration heard;
- (g) Record general environmental conditions; and
- (h) Record acoustic source power out put while in operation, and any mitigation measures taken.

9. To be a trained observer (either MMO or PAM), a person will have —

- (a) Successfully completed an accredited marine mammal observation course or PAM operator course recognised by the Authority; or
- (b) Demonstrated all required competencies through an assessment process recognised by the Authority.

10. To be a qualified observer, in addition to the above a person will have logged a minimum of 12 weeks' relevant sea-time engaged in offshore seismic survey operations, either as a MMO or PAM operator under the supervision of an appropriately qualified observer.

PART 3 - OPERATIONS

ARTICLE 5

PRE-START OBSERVATIONS

1. During daylight hours, a visual check should be made (using binoculars from a suitable, high observation platform on the survey

vessel that optimally allows for a 360° view) for the presence of marine mammals, prior to the commencement of all operations.

2. Observations for all marine mammals should begin at least 30 minutes prior to use of any high energy acoustic source, with particular focus on a 1.5 km radius around the survey vessel for all marine mammals.
3. In deep waters (>200m) the pre-shooting search should extend to 60 minutes as deep diving species (e.g. sperm whale and beaked whale) are known to dive for longer than 30 minutes. A longer search time in such areas is likely to lead to a greater detection and tracking of deep diving marine mammals.
4. Continual visual observation for all marine mammals using binoculars should be made for all marine mammals during daylight operational hours within the 1.5 km radius from the acoustic source.
5. Consideration should be given to the use of passive acoustic monitoring (PAM) during periods when the likelihood of detecting marine mammals is low because of visibility constraints (i.e. at night or in poor weather conditions).
6. If PAM is used in conjunction with visual monitoring the PAM operators should ensure the system is deployed and being monitored for vocalisations during each designated pre-shooting period.

ARTICLE 6

DELAYED STARTS

1. Discharge of any acoustic source should not commence if a marine mammal is within 500 metres of the centre of the airgun array during the pre-shooting search.
2. If marine mammals are detected within 500 metres of the centre of the airgun array the start up of the acoustic source should be delayed until either their passage, or the transit of the vessel, results in the marine mammals being more than 500 metres away from the source.

3. In both cases, there should be a 30 minute delay from the time of the last sighting within 500 metres of the source to the commencement of the soft-start, in order to determine whether the animals have left the area. If PAM is used it is the responsibility of the PAM operators to assess any acoustic detections and determine if there are likely to be marine mammals within 500 metres of the source. If the PAM operators consider marine mammals are present within that range then the start of the operation should be delayed as outlined above.

ARTICLE 7

SOFT STARTS

1. Prior to undertaking seismic survey operations (e.g. at the start of a line) the output of the source array should be 'ramped up' gradually, starting with firing only one airgun. The whole array should not be fired without a full soft start. Soft starts should be used for every start-up or in the event that the acoustic source has been shut down, even if no marine mammals have been seen. The only exception to this is when the acoustic source has been shut down for no longer than 20 minutes.
2. The soft start procedure involves a gradual increase in the number of air-guns fired over a 20 minute period prior to commencement of a line, and serves to deter marine mammals from entering the operational area and give marine mammals the chance to leave the vicinity before the maximum output of the array has been reached. To minimise acoustic impact on the environment a soft start should take no longer than 45 minutes to complete.
3. Visual observations should be maintained continuously during soft starts to detect the presence of marine mammals within 1.5 km of the vessel.
4. If a marine mammal or marine mammals are sighted within an Observation Zone during the soft start procedure, the acoustic source should be shut down. Re-commencement of soft start procedures should take place after 30 minutes has lapsed since the last sighting of the marine mammal within the relevant Observation Zone.

ARTICLE 8**ONGOING OBSERVATIONS / STOP WORK PROCEDURES**

1. Every marine mammal observed should be monitored and their behaviour recorded while they remain within 1.5 km of the acoustic source regardless of whether the source is firing or not.
2. A seismic vessel should shut down the acoustic source if any group containing cow-calf pairs are detected within 1.5 km of the survey vessel while survey work is occurring at full power. Operations should not recommence until the group has been seen to move outside the 1.5 km range, or has not been seen within this range for 30 minutes.
3. For all other instances where marine mammals are detected while the acoustic source is operating at full power, a shut down distance of 1 km should be applied. The acoustic source should remain shut down until all individuals have moved outside the 1 km radius, or have not been seen within this range for 30 minutes, after which operations can recommence.
4. There should be continued discharge of the acoustic source during mitigations/changes. Discharge of only a limited number of air-guns in the acoustic array is thought to be sufficient to deter marine mammals from entering the operational area during turns and line changes.
5. Notwithstanding paragraph 4 of this Article, if the line change time is expected to be greater than 20 minutes, airgun firing should be terminated at the end of the line and a full 20 minute soft-start undertaken before the next line. A pre-shooting search should also be undertaken during the scheduled line change, and the soft-start delayed if marine mammals are seen within 500 metres of the centre of the airgun array.

ARTICLE 9**RECORDING AND REPORTING**

1. All sightings of marine mammals during the survey period, including any beyond the maximum mitigation zone boundaries or while in

transit, will be recorded using the standardised format included in Schedule 1 to this Annex. A written trip report shall be submitted by the operator to the Authority at the earliest opportunity but no longer than 60 days after completion of the survey.

2. Recording and reporting of observations of other marine species (e.g. marine turtles) are also encouraged noting whether opportunistic or systematic (during required observations).
3. In addition to the above summary report, the qualified observers will submit all raw datasheets directly to the Authority, at the earliest opportunity but no longer than 14 days after completion of each deployment. Proprietary information provided to the Authority through these reporting processes will be treated in confidence. Only data on marine mammal detections will be made publicly available.

ANNEX IV

PREVENTION AND CONTROL OF POLLUTION RESULTING FROM EXPLORATION AND EXPLOITATION OF THE CONTINENTAL SHELF

PART 1 - PRELIMINARY

ARTICLE 1 INTERPRETATION

For the purposes of this Annex —

“Administration” means the relevant agency of the government of the state —

- (a) under whose authority an offshore installation is operating; or
- (b) whose flag the offshore installation is entitled to fly;

“Approved” means approved by the Designated Authority;

“Authorized” organisation means an organisation that has entered into a memorandum of agreement with the Contracting States —

- (a) in accordance with the International Maritime Organisation Assembly Resolution A.739(18) and the Annexes thereto entitled Guidelines for the Authorisation of Organisations Acting on Behalf of the Administration; and
- (b) governing the undertaking of particular survey and certification functions by that organisation's employees under the Act and regulations;

“Best practicable option” means the best method of preventing or minimizing adverse effects on the environment having regard to, amongst other things —

- (a) the nature of the discharge or emission and the sensitivity of the receiving environment to adverse impacts;
- (b) the financial implications and the effects on the environment of that option when compared with other options; and
- (c) the current state of technical knowledge and the likelihood that the option can be successfully applied;

“Cuttings means” solid material removed from drilled rock together with any solids and liquids derived from any adherent drilling fluids;

“Discharge” —

- (a) includes any escape, release, disposal, spilling, leaking, pumping, emitting or emptying;
- (b) does not include —
 - (i) dumping in accordance with approval given by the Authority in accordance with Annex II of this Code; or
 - (ii) release of hazardous substances for the purposes of legitimate scientific research in to pollution abatement

and control, and discharged shall be construed accordingly;

“Dispersant” means any substance used or intended to be used for the dispersal or emulsification of an oil spill in the sea;

“Emergency response procedures” means those procedures of an approved Discharge Management Plan prepared or required to be prepared in accordance with clause 2 of Schedule 1;

“Garbage” —

(a) means any victual, domestic or operational waste —

(i) generated during the normal operation of the installation; and

(ii) liable to be disposed of continuously or periodically; but

(b) does not include —

(i) fresh fish or parts of fresh fish;

(ii) any substance defined or listed in any Annex to MARPOL other than Annex V;

“Hazardous substance”¹ means substances which fall into one of the following categories —

(a) substances or groups of substances that are toxic, persistent and liable to bioaccumulate;

(b) other substances or groups of substances which are assessed by the Authority as requiring a similar approach as substances referred to in (a) even if they do not meet all the criteria for toxicity, persistence and bioaccumulation, but which give rise to an equivalent level of concern;

(c) any solution containing substances categorized under paragraph (i) or (ii) above; and

(d) oil —

“Installation” means offshore installation;

“TOPP Certificate” means an International Oil Pollution Prevention Certificate issued under Annex I of MARPOL 73/78;

“Marine oil spill” means any actual or probable release, discharge or escape of oil into the marine environment;

“MARPOL 73/78” means the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto; and includes any subsequent protocol, amendment or revision of that convention accepted or ratified by the Contracting States;

“Non-aqueous drilling fluids [NAF]” means oil-based and synthetic based drilling fluids;

“Offshore installation” includes —

(a) any artificial structure (including a floating structure that is not a ship) used or intended to be used in or on, or anchored or attached to, the seabed for the purpose of the exploration for, or the exploitation or associated processing of, petroleum;

(b) for the purposes of Articles 2-9, 19 and 20, a pipeline permanently attached to an offshore installation;

“Oil” means —

(a) means petroleum in any form including crude oil, fuel oil, sludge, oil refuse and refined products; and

(b) any oily mixture;

“Oil-based drilling fluids (OBF)” means those liquids, used in drilling operations to cool and lubricate the bit and to control well pressure, where the continuous phase and suspended medium for solids is a water immiscible fluid that is oil-based (normally low aromatic and paraffinic oils);

“Oil spill” means any actual or probable release, discharge or escape of oil;

“Oily mixture” means a mixture with any oil content;

“OSPAR” means the OSPAR Commission, being the forum through which the Contracting Parties to the Convention for the Protection of the marine Environment of the North-East Atlantic (OSPAR Convention) cooperate;

“Petroleum” means —

- (a) any naturally occurring hydrocarbon (other than coal), whether in a gaseous, liquid, or solid state; or
- (b) any naturally occurring mixture of hydrocarbons (other than coal), whether in a gaseous, liquid, or solid state; or
- (c) any naturally occurring mixture of 1 or more hydrocarbons (other than coal), whether in a gaseous, liquid, or solid state, and 1 or more of the following, namely, carbon dioxide, helium, hydrogen sulphide, or nitrogen; and
- (d) includes —
 - (i) any petroleum that has been mined or otherwise recovered from its natural condition; or
 - (ii) any petroleum that has been mined or otherwise recovered but has been returned to a natural reservoir for storage purposes in the same or an adjacent area.

“Produced water” means water which is produced in oil and/or gas

production operations and includes formation water, condensation water and re-produced injection water; it also includes water used for desalting oil;

“Substance” means a chemical element or compound or a mixture or solution composed of two or more elements or compounds;

“Surveyor” means a surveyor employed by an authorised organisation;

“Synthetic-based drilling fluid (SBF)” means those liquids, used in drilling operations to cool and lubricate the bit and to control well pressure, where the continuous phase and suspended medium for solids is a water immiscible fluid which comprises highly refined mineral oil-based fluids or fluids derived from vegetable and animal sources; and

“Water-based drilling fluids (WBF)” means those liquids, used in drilling operations to cool and lubricate the bit and to control well pressure, where the continuous phase and suspended medium for solids is a sea water or a water miscible fluid.

ARTICLE 2 APPLICATION

This Annex applies to every offshore installation operated within the JMA.

PART 2 - DISCHARGE MANAGEMENT PLANS

ARTICLE 3 REQUIREMENT FOR A DISCHARGE MANAGEMENT PLAN

1. No person may operate an offshore installation without the Authority's written approval of a Discharge Management Plan having the contents prescribed in Schedule 1 of this Annex.
2. The Discharge Management Plan required under paragraph 1 of this Article may be submitted either as a separate document or as an integral part of a wider Environmental Management Plan required pursuant to Article 10 of this Code as appropriate.

ARTICLE 4
APPLICATION FOR APPROVAL OF A DISCHARGE
MANAGEMENT PLAN

1. Every application for approval of a Discharge Management Plan —
 - (a) must be in English;
 - (b) may be made by letter or in such other form as the Authority may allow;
 - (c) must include the applicant's —
 - (i) address in Mauritius or Seychelles;
 - (ii) telephone number;
 - (iii) fax number (if any);
 - (iv) email address (if any);
 - (d) must be made —
 - (i) at least 3 months before the date on which the operations are due to begin or the existing approval expires; or
 - (ii) within such lesser period as the Authority considers appropriate;
 - (e) must include the contents of the proposed Discharge Management Plan in —
 - (i) hard copy; and
 - (ii) an electronic form acceptable to the Authority.
2. The Authority may require any additional information it considers necessary to support an application for approval of a Discharge Management Plan.

3. If the Authority requires any additional information under paragraph 2 of this Article, the Authority must advise the applicant, in writing, of —
- (a) the details of the additional information that is required; and
 - (b) the reason(s) why the information is required, no later than 15 working days from the date of receipt of the application.

ARTICLE 5

APPROVAL AND DURATION OF A DISCHARGE MANAGEMENT PLAN

1. If the Authority is satisfied that a proposed Discharge Management Plan complies with the requirements of Schedule 1, the Authority may approve the Discharge Management Plan valid for a period of 3 years.
2. Application for the renewal of a Discharge Management Plan shall be submitted to the Authority at least 3 months before the expiry of the existing Discharge Management Plan.

ARTICLE 6

CUSTODY OF A DISCHARGE MANAGEMENT PLAN

A copy of the approved Discharge Management Plan and the Authority's written approval must be kept and made available on request on every installation to which the plan applies at all times.

ARTICLE 7

MODIFICATIONS TO A DISCHARGE MANAGEMENT PLAN

1. Except as provided in paragraph 3 of this Article, the Operator must apply to the Authority for approval of any modification to the Discharge Management Plan, for example, when the Operator proposes to —
 - (a) alter the use or layout of the installation in such a way that could increase the risk of a spill of oil or other hazardous substance;

- (b) use a hazardous substance not approved in the plan.
- 2. The provisions of Article 4 and Schedule 1 of this Annex apply to an application for modification(s) to a Discharge Management Plan except that if the only modification applied for is for the use of a hazardous substance only information pertaining to that substance is required to be submitted in respect of Schedule 1.
- 3. The Operator may make the following changes to the Discharge Management Plan without the prior approval of the Authority:
 - (a) modifications to the 24 hour contact list;
 - (b) re-assignment of personnel responsibilities.
- 4. The Operator must notify the Authority of any changes to a Discharge Management Plan within one (1) week.

ARTICLE 8

RECORD OF CHANGES TO A DISCHARGE MANAGEMENT PLAN

The Operator must keep a record of the action(s) taken to meet the obligation in paragraph 1 of Article 7.

ARTICLE 9

CONDITIONS FOR OFFSHORE INSTALLATIONS

The Operator of an offshore installation must —

- (a) ensure that personnel responsible for implementing the approved Discharge Management Plan and dealing with spills of oil and other hazardous substances receive training appropriate to their responsibilities;
- (b) keep a record of that training;
- (c) test the emergency response procedures not less than once every 12 months;

- (d) maintain access to equipment to deal with a spill, at a level appropriate to —
 - (i) the risks presented by the installation; and
 - (ii) the response options identified in the approved Discharge Management Plan; and
- (e) when called upon by the Authority justify any response option, identified in the Discharge Management Plan, as effective and achievable.

PART 3 - Operation

ARTICLE 10

DISCHARGE OF HAZARDOUS SUBSTANCES OTHER THAN OIL

The Operator must ensure that no hazardous substance is discharged from any offshore installation, unless that hazardous substance is:

- (a) specified in the approved Discharge Management Plan for that installation; and
- (b) discharged in accordance with that plan.

ARTICLE 11

PERMITTED DISCHARGES OF PRODUCED WATER, BALLAST WATER AND OFFSHORE PROCESSING DRAINAGE

1. The Operator must, by use of the best practicable option, ensure that the dispersed oil content of produced water, ballast water or offshore processing drainage discharged from an offshore installation —
 - (a) does not exceed 40 milligrams per litre; and
 - (b) averages less than 30 milligrams per litre every calendar month.

2. If the Operator is unable to comply with paragraph 1 of this Article by use of the best practicable option, the Authority may authorise the discharge and require the Operator to adopt additional measures to prevent possible pollution of the marine environment.
3. For the purposes of paragraph 1(b) of this Article, the Authority may allow a limit greater than 40 milligrams per litre if it considers it necessary for geological, technical or safety reasons.

ARTICLE 12

USE AND DISCHARGE OF DRILLING FLUIDS

1. Subject to the requirements in paragraph 2 of this Article, the Operator must ensure that no drilling fluid is used on an offshore installation unless that fluid is:
 - (a) specified in the installation's approved Discharge Management Plan; and
 - (b) discharged in accordance with that plan.
2. For the purposes of this Annex, the following performance standards shall apply —
 - (a) The use of diesel-OBF is prohibited;
 - (b) The use of NAF in the upper part of the well is not permitted unless their use is necessary for geological or safety reasons;
 - (c) The discharge of whole NAF and cuttings contaminated with NAF at a concentration greater than 1% fluid by weight on dry cuttings, is prohibited; and
 - (d) The mixing of NAF with cuttings to achieve this standard for the purpose of disposal is not acceptable.
3. Notwithstanding the requirements set out in paragraph 2 of this Article, the Authority may allow the discharge of cuttings

contaminated with SBF at a concentration greater than 1% fluid by weight on dry cuttings in exceptional circumstances, provided it can be demonstrated in the Discharge Management Plan that —

- (a) There is no alternative to the use of SBF; and
 - (b) The discharge of cuttings contaminated with SBF is the best practicable option for their disposal.
4. Where OBF and SBF are used, the offshore installation shall have a containment and drainage system which allows the collection and treatment of all run off water which may be contaminated with drilling fluids or their by-products.

ARTICLE 13

PERMITTED DISCHARGE OF GARBAGE

No person may discharge garbage from an offshore installation except food waste that —

- (a) has passed through a comminuter or grinder; and
- (b) is capable of passing through a screen with openings no greater than 25 mm².

ARTICLE 14

PERMITTED DISCHARGES OF OIL AND OILY MIXTURES

Except as provided in Article 15, oil and oily mixture that drains from the machinery spaces, oil tanks and other parts of the installation may be discharged, if:

- (a) the oil content of the discharge without dilution does not exceed 15 parts per million; and
- (b) the installation has in operation the equipment required by Article 16.

ARTICLE 15

OIL RESIDUES THAT CANNOT BE DISCHARGED

The Operator must ensure that any oil residue that cannot be discharged into the sea in compliance with Article 14 of this Annex is —

- (a) retained on board the installation;
- (b) offloaded as cargo; or
- (c) discharged to a reception facility.

ARTICLE 16

OIL FILTERING EQUIPMENT

1. The Operator of an offshore installation must ensure that it is fitted with oil filtering equipment:
 - (a) of a design approved by the Authority or the Administration of another state party to MARPOL 73/78; and,
 - (b) to ensure that any oily mixture that —
 - (i) drains from the machinery spaces, oil tanks and other parts of the installation; and
 - (ii) is discharged into the sea,

has an oil content not exceeding 15 parts per million, after passing through the equipment.
2. In the case of an offshore installation of 10,000 gross tons or more, the oil filtering equipment provided in accordance with paragraph 1 of this Article must be fitted with —
 - (a) an alarm to indicate; and
 - (b) arrangements to ensure that any discharge of oily mixture

is automatically stopped, when the oil content of the effluent exceeds 15 parts per million.

3. The requirements of paragraphs 1 and 2 shall not apply if —
- (a) the Authority is satisfied that oily mixtures can be adequately stored on board and subsequently discharged to reception facilities ashore or otherwise satisfactorily disposed of without being discharged into the sea; and
 - (b) oily mixtures are so stored and disposed or discharged.

ARTICLE 17

SLUDGE TANKS

The Operator of an offshore installation must ensure that it is fitted with a tank or tanks —

- (a) large enough to hold all oily residues that cannot otherwise be dealt with in accordance with this Part; and
- (b) designed and constructed so as to allow them to be cleaned and emptied at a reception facility.

ARTICLE 18

OIL RECORD BOOK

1. The Operator must ensure that the installation is provided with an oil record book in a form approved by:
- (a) the Authority; or
 - (b) the Administration of a state party to MARPOL 73/78.
2. The Operator must ensure that an entry is made in the Oil Record Book on every occasion on which any of the following operations takes place on the installation:

- (a) ballasting or cleaning of oil fuel tanks;
 - (b) discharge of dirty ballast or cleaning water from oil fuel tanks;
 - (c) discharge overboard or other disposal of oily water that has accumulated in machinery spaces or other parts of the installation;
 - (d) loading of oil;
 - (e) internal transfer of oil;
 - (f) unloading of oil;
 - (g) ballasting of oil storage tanks;
 - (h) cleaning of oil storage tanks;
 - (i) discharge of dirty ballast or cleaning water from oil storage tanks; and,
 - (j) the dispersed oil content of produced water, ballast water or offshore processing drainage —
 - (i) is measured;
 - (ii) exceeds 50 milligrams per litre; or
 - (iii) averages more than 30 milligrams per litre in any calendar month, and the entry must include the dispersed oil content in milligrams per litre;
 - (k) disposal of oily residues (sludge).
3. The Operator must ensure that the daily volume in litres of discharged production water, displacement water or offshore processing drainage is recorded in the installation's oil record book.

4. The Operator must ensure that a statement is made in the installation's oil record book of the circumstances of, and the reasons for —
 - (a) any discharge into the sea of oil or oily mixture for the purpose of —
 - (i) securing the safety of the offshore installation; or
 - (ii) saving life at sea;
 - (b) any escape into the sea of oil or oily mixture resulting from —
 - (i) damage to the offshore installation or its equipment; or
 - (ii) resulting from any other accidental or exceptional occurrence;
 - (c) any discharge into the sea of substances containing oil when being used for the purpose of combating specific pollution incidents.
5. Every entry or statement, required to be made in the installation's oil record book, must be:
 - (a) fully recorded without delay;
 - (b) signed by the person or persons in charge of the operation(s) concerned; and
 - (c) in English.
6. Every completed page of the oil record book must be signed by the person on board the offshore installation who has overall responsibility for its operations.
7. The Operator must ensure that the installation's oil record book is kept —

- (a) on board the installation, except in the case of an unmanned offshore installation under tow; and
 - (b) in such a place as to be readily available for inspection at all reasonable times.
- 8. The Operator must ensure that a true copy of every completed page of the installation's oil record book is forwarded to the Authority within 3 weeks of the end of the month in which it was completed.
- 9. Every oil record book must be preserved by the Operator of the installation for a period of three years after the last entry is made in it.

ARTICLE 19

REPORTING OF SPILLS

- 1. Immediately after any spill of oil or other hazardous substance to the marine environment, the Operator of an offshore installation must report the spill to the Authority by the fastest means of communication available and with the highest possible priority, in accordance with the reporting requirements set out in the Discharge Management Plan.
- 2. If the person responsible for implementing the emergency response procedures considers that a marine oil spill cannot be contained or cleaned up using the resources available to that person, he or she must report that fact to the Authority by the fastest means of communication available and with the highest possible priority using the procedures outlined in the Discharge Management Plan.

ARTICLE 20

ACCIDENT REPORTING

- 1. The Operator must report —
 - (a) any incident that occurs to the offshore installation; or

(b) any defect that is discovered,

which substantially affects the integrity of the installation or the efficiency or completeness of the equipment covered by this Part.

2. The Operator must ensure that every report required under paragraph 1 of this Article is made as soon as possible to —
 - (a) the Authority; and
 - (b) the authorised organisation that issued the installation's IOPP Certificate.
1. After a report has been made under paragraph 1 of this Article, the Authority or the authorised organisation that issued the installation's IOPP Certificate may require that the installation be surveyed to ensure compliance with the requirements of these regulations and the installation's IOPP Certificate.

PART 4 - INTERNATIONAL OIL POLLUTION PREVENTION CERTIFICATES

ARTICLE 21 REQUIREMENT FOR AN OFFSHORE INSTALLATION TO HAVE AN IOPP CERTIFICATE

1. The Operator of an offshore installation must ensure that there is, held in respect of the installation, a valid IOPP Certificate —
 - (a) issued or renewed in accordance with Article 23; or
 - (b) issued by or on behalf of a state party to MARPOL 73/78 other than Mauritius or Seychelles.
2. The Operator must ensure that the IOPP Certificate held in respect of the installation is —
 - (a) carried on board the installation at all times; and
 - (b) made readily available for inspection by the Authority.

ARTICLE 22
SURVEYS AND INSPECTIONS PRIOR TO THE
ISSUE, RENEWAL OR ENDORSEMENT OF AN
IOPP CERTIFICATE

1. The Operator of an offshore installation must ensure that the periodic surveys detailed in paragraphs 2 and 3 of this Article are carried out by a surveyor approved by the Authority or other authorised organization in respect of that installation.
2. Initial and renewal surveys must be carried out to ensure that the structure, equipment, systems, piping, fittings, arrangements, record books, emergency response procedures and material fully comply with the requirements of this Annex.
3. Annual surveys must be carried out to ensure that the structure, equipment, systems, piping, fittings, arrangements, record books, emergency response procedures and material:
 - (a) have been properly maintained;
 - (b) have not been altered without the approval of the Authority or a surveyor as required; and
 - (c) remain satisfactory for service.
4. Intermediate surveys must be carried out to ensure that —
 - (a) the equipment and associated pump and piping systems, including oil discharge monitoring and control systems, oily water separating equipment and oil filtering systems are in good working order and fully comply with the requirements of this Part; and
 - (b) the structure, equipment, systems, piping, fittings, arrangements, record books, emergency response procedures and material have not been altered without the approval of the Authority or a surveyor as required.

ARTICLE 23
ISSUE, DURATION AND RENEWAL OF AN IOPP
CERTIFICATE FOR AN OFFSHORE INSTALLATION

An IOPP Certificate, including a supplement —

- (a) must be in the form prescribed in Annex 1 of MARPOL 73/78;
 - (b) may be issued for a period not exceeding 5 years; and
- (b) is subject to the following conditions —
- (i) no significant alterations may be made in the installation's structure, equipment, systems, fittings, arrangements and material without the approval of a surveyor, except the direct replacement of such equipment and fittings;
 - (ii) the satisfactory completion of the surveys required under Article 22 of this Annex;
 - (iii) the installation has on board the oil record book(s) required to be kept by Article 18 of this Annex; and
 - (iv) the installation has on board an approved Discharged Management Plan.

ARTICLE 24
CONDITIONS OF THE IOPP CERTIFICATE

A surveyor may give his approval to the issue, renewal or endorsement of an IOPP Certificate —

- (a) unconditionally; or
- (b) subject to such conditions as the surveyor sees fit in the interests of maritime safety and marine environment protection.

ARTICLE 25**FAILURE TO MEET STANDARDS REQUIRED FOR RENEWAL
OR ENDORSEMENT OF AN IOPP CERTIFICATE**

1. If a surveyor, who has carried out a renewal or annual survey of an offshore installation, determines that the condition of the offshore installation's equipment —
 - (a) does not correspond substantially with the particulars of the installation's IOPP Certificate; or
 - (b) presents an unreasonable threat of harm to the marine environment, the surveyor must —
 - (i) immediately instruct the Operator of the offshore installation to take corrective action;
 - (ii) notify the Authority of the corrective action required; and
 - (iii) not renew or endorse the installation's IOPP Certificate.
2. If the corrective action required under paragraph 1 of this Article is not taken, the Authority may suspend or impose conditions on the installation's IOPP Certificate.

ARTICLE 26**CONDITION AFTER SURVEY**

1. The Operator of an offshore installation must ensure that the installation's equipment is maintained in a condition that —
 - (a) complies with the provisions of this Part;
 - (b) corresponds substantially with its IOPP Certificate; and
 - (c) does not present an unreasonable threat of harm to the marine environment.

2. The Operator must ensure that no change is made to an installation's structure, equipment, systems, fittings, arrangements or material covered by a survey, without the approval of a surveyor, except the direct replacement of such equipment and fittings.

SCHEDULE 1

CONTENTS OF A DISCHARGE MANAGEMENT PLAN

RISK IDENTIFICATION, ASSESSMENT AND PREVENTION OF POLLUTION

1. With respect to oil, every Discharge Management Plan must include:
 - (a) details of the location of the offshore installation and of the field to which the application relates;
 - (b) up to date and accurate drawings or plans showing —
 - (i) the general arrangement of the installation, in particular, the places and systems associated with the storage or transfer of fuels including tank capacity, filling arrangements, isolation valves and drainage systems highlighting the critical isolation points; and
 - (ii) those areas of the installation identified as presenting the greatest risk of a marine oil spill;
 - (c) details of the proposed operations at the installation;
 - (d) characterisation of the oil(s) produced, stored and used at the installation including but not limited to —
 - (i) oil type
 - (ii) viscosity
 - (iii) density (specific gravity) (iv) pour point

- (v) wax content
 - (vi) asphaltene content
 - (vii) potential spill volumes;
 - (e) a detailed description of all the processes and activities which present a risk of pollution from an oil spill, with a list of specific procedures to reduce the risk of an oil spill;
 - (f) an assessment of the weathering and persistence (fate) of oil (if spilled on water) at different temperatures and wind speeds. This should include laboratory analysis to determine how the oil will behave once spilled;
 - (g) information on the nature and effectiveness of dispersants on individual oils;
 - (h) a detailed description (including maps) of those areas identified as at risk of environmental damage as a result of an oil spill including possible social, cultural and economic implications; and
 - (i) an assessment of the potential impacts of spilled oil including identification of the environmental, social and economic resources most at risk from oil and other hazardous materials (sensitive receptors).
2. In respect of every hazardous substance to be used on the installation, the Discharge Management Plan must also include —
- (a) particulars of the substance;
 - (b) the purpose of the substance;
 - (c) evidence that the selected substance has the least hazard and lowest potential environmental impact while still being effective;

- (d) the maximum volumes of the substance that can be stored on the installation and the method of storage;
- (e) the maximum concentration of the substance to be used in combination with any other substance;
- (f) the maximum amounts of the substance to be used in specific periods;
- (g) a completed chemical data sheet containing as a minimum the information set out in Schedule 2;
- (h) the ecotoxic nature of the substance, with reference to schedule 2; and
- (i) a detailed description of those processes and activities that present a risk of accidental discharge of the substance and a list of actions to be taken and procedures in place to reduce the risk of a spill.

OPERATIONAL DISCHARGES

1. Every Discharge Management Plan must explain how the produced water, ballast water, offshore processing drainage and any other water emanating from the well product, is to be managed, including —
 - (a) an assessment of the feasible alternatives for its management and disposal;
 - (b) selection of the least hazardous chemicals to minimise the toxicity of that water;
 - (c) the options to be used to reduce the volume of production water discharged to the marine environment;
 - (d) the method to be used to monitor the concentration of dispersed oil in production water; and

- (e) the procedure by which dispersed oil content, which exceeds the limits laid down in Article 11, is to be recorded in the Oil Record Book or reported in accordance with that Article.
2. Every Discharge Management Plan must explain how the discharge of drill cuttings and associated drilling fluids, is to be managed, including —
- (a) an assessment of the feasible alternatives for the disposal of spent WBF and drill cuttings from well sections drilled with either WBF or NAF;
 - (b) selection of the least hazardous chemicals to minimise the toxicity of the discharged fluids and cuttings.

EMERGENCY RESPONSE PROCEDURES FOR SPILLS OF OIL AND HAZARDOUS SUBSTANCES

1. Every Discharge Management Plan must include emergency response procedures for spills of oil and other hazardous substances, either as an integral part of the plan or as a separate Annex as appropriate.
2. Emergency response procedures must include —
- (a) guidance to ensure the safety of personnel;
 - (b) information to help personnel at the installation deal with a spill by detailing the actions necessary to stop, minimise or mitigate the effects of a spill, including procedures for —
 - (i) determining what action to take in response to a spill;
 - (ii) preventing escalation of the spill;
 - (iii) stopping the discharge at its source, if possible;

- (iv) identifying the safety and environmental consequences of any remedial action; and
- (v) determining whether the spill can be contained or cleaned up using the resources available to the Operator or any other person responsible for implementing the emergency response procedures;
- (c) an assessment of the preferred protection and clean up options and details of the response options available to the installation;
- (d) the procedure by which spills are to be reported in accordance with Article 19;
- (e) the procedure by which spills that the person responsible for implementing the emergency response procedures considers cannot be cleaned up or contained using the resources available to him or her, are to be reported in accordance with Article 19;
- (f) a list of 24-hour contact information, including that of —
 - (i) the Operator or the Operator's representative;
 - (ii) the relevant statutory authority;
 - (iii) any organisation contracted to respond to spills at the installation;
 - (iv) the person responsible for implementing the plan;
 - (v) the person responsible for co-ordinating response activities;
 - (vi) off-duty personnel with responsibilities for dealing with spills; and
 - (vii) all other persons who have interests in the vicinity of the installation that are likely to be affected by a spill from the installation;

- (g) the organisational response structure for the installation, including —
 - (i) duties of all personnel responsible for dealing with spills; and
 - (ii) positions consistent with any Incident Control System that may be prescribed in the oil spill contingency plan developed by the Authority in respect of the JMA;
- (h) the notification and mobilisation procedures to mobilise the organisation detailed in 2(g) above;
- (i) the relationship with other marine pollution emergency response systems; and
- (j) an inventory of response equipment held on the installation and personnel responsibilities for the deployment, survey and maintenance of that equipment.

SCHEDULE 2 CHEMICAL DATA SHEET

PART 1 – INTRODUCTION																									
Name of Operator:																									
Facility/activities to which this data sheet relates:																									
PART 2 – SUBSTANCE INFORMATION																									
Chemical name: Trade name(s): Number: Alternative name(s):	UN Number: CAS ³ Registry OSPAR																								
Classification:																									
<table style="width: 100%; border: none;"> <tr> <td style="width: 60%;">Components:</td> <td style="width: 40%;">Proportion by weight (%):</td> </tr> <tr> <td>Name and UN/CAS number of individual components:</td> <td></td> </tr> <tr> <td>.....</td> <td>.....</td> </tr> <tr> <td>.....</td> <td>.....</td> </tr> <tr> <td>.....</td> <td>.....</td> </tr> </table>		Components:	Proportion by weight (%):	Name and UN/CAS number of individual components:															
Components:	Proportion by weight (%):																								
Name and UN/CAS number of individual components:																									
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Physical/Chemical Properties (may be provided in the MSDS):																									
<table style="width: 100%; border: none;"> <tr> <td style="width: 40%;">Physical state at 20°C:</td> <td style="width: 20%;">Boiling point range (°C):to</td> <td style="width: 40%;">Water reactivity:</td> </tr> <tr> <td></td> <td>Melting (pour) point (oC):to</td> <td></td> </tr> <tr> <td>Density at 20°C:</td> <td colspan="2">Water solubility: kg/m3 at °C at pH.....</td> </tr> <tr> <td>Flash point (°C):</td> <td colspan="2">pH:undiluted</td> </tr> <tr> <td colspan="3">diluted</td> </tr> <tr> <td colspan="3">Does the preparation separate in seawater to give: floating <input type="checkbox"/> sinking <input type="checkbox"/></td> </tr> <tr> <td colspan="3">soluble <input type="checkbox"/> materials?</td> </tr> <tr> <td colspan="3">Does it have surfactant properties?: Yes <input type="checkbox"/> No <input type="checkbox"/></td> </tr> </table>		Physical state at 20°C:	Boiling point range (°C):to	Water reactivity:		Melting (pour) point (oC):to		Density at 20°C:	Water solubility: kg/m3 at °C at pH.....		Flash point (°C):	pH:undiluted		diluted			Does the preparation separate in seawater to give: floating <input type="checkbox"/> sinking <input type="checkbox"/>			soluble <input type="checkbox"/> materials?			Does it have surfactant properties?: Yes <input type="checkbox"/> No <input type="checkbox"/>		
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soluble <input type="checkbox"/> materials?																									
Does it have surfactant properties?: Yes <input type="checkbox"/> No <input type="checkbox"/>																									

PART 3 – SUBSTANCE USE AND DISCHARGE

Proposed use:

Drilling □

Production ☐

Utilities ☐

Completion \square

Stimulation ☐

Other (state): Normal dose

rate (specify units):..... Frequency of treatment: /continuously.....

Probable scale of use:tonnes/yr.

.....kg/day.

Discharge:

Closed system \square

Open system ☐

If open system, estimated discharge as percentage of total use:

Frequency of treatment: / continuously ☐

Probable amount of substance/preparation discharged:

kg/day,.....tonnes/yr.

Duration of discharge, from to..... Total estimated amount of
discharge (tonnes):

Fate:

If known, explain the likely fate of the substance/preparation discharged:

PART 4 – MARINE TOXICITY DATA (this information may be provided in the MSDS): Results:

Test protocol/species:

Acute toxicity:

Chronic toxicity:

Bioconcentration BCF

Test

Tissue

Concentration

Concentration	Depuration	Half Life
---------------	------------	-----------

Aerobic biodegradability

Test Substance %	Reference Substance
------------------	---------------------

(organic and Day

%

organometallic substances	1
---------------------------	---

2

only) 2

3

3

4

ANNEX XII**PREVENTION AND CONTROL OF POLLUTION RESULTING FROM BY
DUMPING FROM SHIPS AND AIRCRAFT OR IN CINATION AT SEA****PART 1 - PRELIMINARY****ARTICLE 1****INTERPRETATION**

For the purposes of this Annex —

— Ships and aircraft¹ means waterborne or airborne craft of any type whatsoever;

— Wastes or other matter² means material and substances of any kind, form or description;

— Dumping³ means:

- (a) any deliberate disposal at sea of wastes or other matter from ships or aircraft;
- (b) any deliberate disposal at sea of ships or aircraft;
- (c) any deliberate disposal or storage and burial of wastes or other matter on the seabed or in the marine subsoil from ships or aircraft;

— Dumping⁴ does not include —

- (a) the disposal at sea of wastes or other matter incidental to, or derived from, the normal operations of vessels or aircraft and their equipment, other than wastes or other matter transported by or to vessels or aircraft, operating for the purpose of disposal of such matter, or derived from the treatment of such wastes or other matter on such vessels or aircraft;

- (b) placement of matter for a purpose other than the mere disposal thereof, provided that such placement is not contrary to the aims of this Protocol;
- (c) the discharge of any substance that is addressed under Annex I of this Code.

— IAEA^{||} means the United Nations International Atomic Energy Agency;

— Incineration at sea^{||} means the deliberate combustion of wastes or other matter in the JMA, with the aim of thermal destruction and does not include activities incidental to the normal operations of ships or aircraft;

— Organisation^{||} means the United Nations' International Maritime Organization.

ARTICLE 2 APPLICATION

These regulations apply to dumping activities from ships and aircraft operating within the JMA.

PART 2 - WASTE DISPOSAL

ARTICLE 3 DUMPING OF WASTE

1. The dumping of wastes or other matter, with the exception of those listed in paragraph 2 of this Article, is prohibited.
2. The following is the list referred to in the preceding paragraph:
 - (a) dredged material;
 - (b) sewage sludge;
 - (c) fish waste, or material resulting from industrial fish processing operations;

- (d) vessels and platforms or other man-made structures at sea;
 - (d) inert, inorganic geological material;
 - (e) organic material of natural origin; and
 - (f) bulky items primarily comprising iron, steel, concrete and similarly non- harmful materials for which the concern is physical impact, and limited to those circumstances where such wastes are generated at locations, such as small islands with isolated communities, having no practicable access to disposal options other than dumping.
3. The wastes or other matter listed in paragraph 2 of this Article may be considered for dumping, provided that material capable of creating floating debris or otherwise contributing to pollution of the marine environment has been removed to the maximum extent and provided that the material dumped poses no serious obstacle to fishing or navigation.
4. Notwithstanding the above, materials listed in paragraph 2 of this Article containing levels of radioactivity greater than *de minimis* (exempt) concentrations as defined by the IAEA, shall not be considered eligible for dumping.

ARTICLE 4 DUMPING PERMITS

1. The dumping of the wastes or other matter listed in paragraph 3(2) of this Article requires a prior permit from the Authority.
2. An applicant for a permit referred to in paragraph 1 of this Article shall demonstrate that they have addressed all of the actors set forth in the Schedule to this Annex.

ARTICLE 5 INCINERATION AT SEA

Incineration at sea is prohibited.

ARTICLE 6

FORCE MAJEURE

The provisions of Articles 3, 4 and 5 shall not apply in case of force majeure due to stress of weather or any other cause when human life or the safety of a ship or aircraft is threatened. Such dumping shall immediately be reported to the Authority, the Organisation and, either through the Organisation or directly, to any Party or Parties likely to be affected, together with full details of the circumstances and of the nature and quantities of the wastes or other matter dumped.

SCHEDULE 1

ASSESSMENT OF WASTES OR OTHER MATTER THAT MAY BE CONSIDERED FOR DUMPING

GENERAL

The acceptance of dumping under certain circumstances shall not remove the obligations under this Annex to make further attempts to reduce the necessity for dumping.

WASTE PREVENTION AUDIT

1. The initial stages in assessing alternatives to dumping should, as appropriate, include an evaluation of:
 - (a) types, amounts and relative hazard of wastes generated;
 - (b) details of the production process and the sources of wastes within that process; an
 - (c) feasibility of the following waste reduction/prevention techniques:
 - (i) product reformulation;
 - (ii) clean production technologies;
 - (iii) process modification;
 - (iv) input substitution; and
 - (v) on-site, closed-loop recycling.

2. In general terms, if the required audit reveals that opportunities exist for waste prevention at source, an applicant is expected to formulate and implement a waste prevention strategy, in collaboration with relevant local and national agencies, which includes specific waste reduction targets and provision for further waste prevention audits to ensure that these targets are being met. Permit issuance or renewal decisions shall assure compliance with any resulting waste reduction and prevention requirements.
3. For dredged material and sewage sludge, the goal of waste management should be to identify and control the sources of contamination. This should be achieved through implementation of waste prevention strategies and requires collaboration between the relevant local and national agencies involved with the control of point and non-point sources of pollution. Until this objective is met, the problems of contaminated dredged material may be addressed by using disposal management techniques at sea or on land.

CONSIDERATION OF WASTE MANAGEMENT OPTIONS

1. Applications to dump wastes or other matter shall demonstrate that appropriate consideration has been given to the following hierarchy of waste management options, which implies an order of increasing environmental impact —
 - (a) re-use;
 - (b) off-site recycling;
 - (c) destruction of hazardous constituents;
 - (d) treatment to reduce or remove the hazardous constituents; and
 - (e) disposal on land, into air and in water.
2. An applicant shall assess whether appropriate opportunities exist to re-use, recycle or treat the waste without undue risks to human health or the environment or disproportionate costs. The practical availability of other means of disposal should be considered in the light

of a comparative risk assessment involving both dumping and the alternatives. Failure to do so may result in the application being declined.

CHEMICAL, PHYSICAL AND BIOLOGICAL PROPERTIES

1. A detailed description and characterisation of the waste is an essential precondition for the consideration of alternatives and the basis for a decision as to whether a waste may be dumped. If a waste is so poorly characterised that proper assessment cannot be made of its potential impacts on human health and the environment, that waste shall not be dumped.
2. Characterisation of the wastes and their constituents shall take into account —
 - (a) origin, total amount, form and average composition;
 - (b) properties: physical, chemical, biochemical and biological;
 - (c) toxicity;
 - (d) persistence: physical, chemical and biological; and
 - (e) accumulation and biotransformation in biological materials or sediments.

DUMP-SITE SELECTION

Information required to select a dump-site shall include:

- (a) physical, chemical and biological characteristics of the water-column and the seabed;
- (b) location of amenities, values and other uses of the sea in the area under consideration;
- (c) assessment of the constituent fluxes associated with dumping

in relation to existing fluxes of substances in the marine environment; and

- (d) economic and operational feasibility.

ASSESSMENT OF POTENTIAL EFFECTS

1. Assessment of potential effects should lead to a concise statement of the expected consequences of the sea or land disposal options, i.e. the "Impact Hypothesis". It provides a basis for deciding whether to approve or reject the proposed disposal option and for defining environmental monitoring requirements.
2. The assessment for dumping should integrate information on waste characteristics, conditions at the proposed dump-site(s), fluxes, and proposed disposal techniques and specify the potential effects on human health, living resources, amenities and other legitimate uses of the sea. It should define the nature, temporal and spatial scales and duration of expected impacts based on reasonably conservative assumptions.
3. An analysis of each disposal option should be considered in the light of a comparative assessment of the following concerns: human health risks, environmental costs, hazards, (including accidents), economics and exclusion of future uses. If this assessment reveals that adequate information is not available to determine the likely effects of the proposed disposal option then this option should not be considered further. In addition, if the interpretation of the comparative assessment shows the dumping option to be less preferable, a permit for dumping should not be given.
4. Each assessment should conclude with a statement supporting a decision to issue or refuse a permit for dumping.

ANNEX XIII

GUIDELINES FOR MINIMISING THE RISK OF INJURY AND DISTURBANCE TO MARINE MAMMALS FROM SEISMIC SURVEYS

PART 1 - PRELIMINARY

ARTICLE 1 INTERPRETATION

For the purposes of this Annex —

“Acoustic source” means a source of acoustic pressure waves used, or intended to be used, for the purpose of an acoustic seismic survey; and in relation to a source vessel, means an acoustic source on or controlled from the vessel;

“Calf/calves” means a smaller animal (less than two-thirds the body size of an adult) travelling in close association with an adult;

“Day” or — daylight hours? means between sunrise and sunset at any given location, and includes the twilight hours of dawn and dusk where there is sufficient light to make effective observations, in the opinion of the qualified marine mammal observer;

“Good sighting conditions” means in daylight hours, during visibility of more than 1.5 km, and in a sea state of less than or equal to Beaufort 3;

“Line turn” means the interval between active survey lines where the vessel manoeuvres into position for the next survey line and acquisition of seismic data ceases;

“Marine Mammal Observer (MMO)” means an individual responsible for conducting visual watches for marine mammals. For some seismic surveys it may be requested that observers are trained, dedicated and / or experienced. The MMO may also be a PAM operative if trained;

“Marine mammal” means any species of cetacean or pinniped;

“Marine seismic survey” means a method of exploration geophysics that uses active acoustic sources to estimate the structure, stratigraphy and properties beneath the sea floor;

“Mitigation zone” means the area where a Marine Mammal Observer keeps watch for marine mammals (and delays the start of activity should any marine mammals be detected);

“Night” or “night-time hours” means between sunset and sunrise at any given location;

“Operational area” means the entire geographical area potentially used for acoustic source activation throughout the proposed marine survey, including seismic data acquisition lines, acoustic source testing and soft start initiation;

“Passive Acoustic Monitoring (PAM)” means a software system that utilises hydrophones to detect the vocalisations of marine mammals;

“PAM operator” means a person trained and/or experienced in the use of PAM software and hardware and marine mammal acoustics;

“Poor sighting conditions” means either at night, or during daylight visibility of 1.5 km or less, or in a sea state of greater than or equal to Beaufort 4;

“Qualified observer” means either a qualified marine mammal observer or a qualified PAM operator, trained and qualified through an accredited⁴ course and experienced in visual whale and dolphin identification and behaviour, and distance/direction of travel estimations;

“Seismic survey” means any survey that uses airguns, including 2D/3D/4D and OBC (On- Bottom Cabling) surveys and any similar techniques that use airguns;⁵

“Shutdown” means stopping an active marine seismic survey by immediately turning off power to the acoustic source;

“Soft start” means turning on the airguns at low power and gradually and systematically increasing the output until full power is achieved (usually over a period of 20 minutes);

“Source (of acoustic pressure waves)” means any device used to create a pulse of acoustic energy in the ocean and includes airgun, boomer, electromechanical, or chemical device;

“Source vessel” means a vessel from which an acoustic source is being or is to be deployed for the purposes of a marine seismic survey.

ARTICLE 2 PREPARATION

This Annex applies to marine seismic survey operations undertaken in respect of offshore mineral exploration within the JMA.

PART 2 - ASSESSING AND MINIMISING THE RISK OF INJURY

ARTICLE 3 THE PLANNING STAGE

1. When a seismic survey is being planned, the operator should take appropriate steps to determine what marine mammal species are likely to be present in the survey area and assess if there are any seasonal considerations that need to be taken into account, for example periods of migration, breeding or calving.
2. The operator should, whenever possible, implement the following best practice measures:
 - (a) If marine mammals are likely to be in the area, only commence seismic activities during the hours of daylight when visual mitigation using Marine Mammal Observers (MMOs) is possible;
 - (b) Ensure that a Passive Acoustic Monitoring (PAM) system is in use to detect marine mammals likely to be in the area during the hours of darkness, or low visibility.
 - (c) Plan surveys so that the timing will reduce the likelihood of encounters with marine mammals. For example, this might be an important consideration in certain areas/times;

- (d) Provide only trained MMOs and PAM operators to implement these guidelines;
 - (e) Use the lowest practicable power levels to achieve the geophysical objectives of the survey;
 - (f) Seek methods to reduce and/or baffle unnecessary high frequency noise produced by the airguns;
3. A designated marine mammal co-ordinator should be responsible for ensuring that marine mammal observations are carried out as described in these guidelines throughout the duration of seismic survey operations. This co-ordinator should be responsible for briefing all other members of the crew who are to be tasked with making and recording observations of marine mammals during operations and should be responsible for returning completed data sheets following survey completion.
4. An independent trained MMO or someone experienced in marine mammal observations should be present throughout the duration of the seismic survey.
5. Where multiple vessels are to be used during a survey, the marine mammal observer should be located on the source vessel, i.e. the vessel towing the air guns.

ARTICLE 4 MITIGATION MEASURE PLANNING

1. A mitigation zone is to be established by transmission loss modeling using a threshold of 180 dB re 1 μ Pa (rms) in the project planning stage prior to commencing the survey. The mitigation zone should be determined by the site-specific source levels and by *in situ* measurements of local environmental conditions (e.g. water depth, seabed type, water temperature, salinity), which will affect the resulting sound propagation.
2. If sound source modelling at the site of the actual project is not possible, the radius of the mitigation zone should be determined by assuming

that local conditions are optimal for sound propagation using idealised modelled source levels and the least favorable (in terms of transmission loss) environmental conditions that are known to occur within the site.

3. The radius of the mitigation zone should be established based on the highest sound levels likely to be emitted by the sound source during the survey. Notwithstanding the above, the minimum radius of the mitigation zone should be 500 metres.
4. Where surveys are of long duration (> 1 month), mitigation zone models should be updated regularly according to changes in localised oceanographic conditions within the site.

ARTICLE 5

MARINE MAMMAL OBSERVERS

1. The primary role of a MMO is to act as an observer for marine mammals and to recommend a delay in the commencement of seismic activity should any marine mammals be detected.
2. While acting in their designated role, MMOs will —
 - (a) Give effective briefings to crew members, and establish clear lines of communication and procedures for onboard operations;
 - (b) Continually scan the water surface in all directions around the acoustic source (not the vessel) for presence of marine mammals, using a combination of the naked eye and high-quality binoculars, from optimum vantage points for unimpaired visual observations with minimum distractions;
 - (c) Use GPS, sextant, reticle binoculars, compass, measuring sticks, angle boards, or any other appropriate tools to accurately determine distances/bearings and plot positions of marine mammals whenever possible throughout the duration of sightings;

- (d) Record and report all marine mammal sightings, including species, group size, behaviour/activity, presence of calves, distance and direction of travel (if discernible) Record sighting conditions (Beaufort Sea State, swell height, visibility, fog/rain, and glare) at the beginning and end of the observation period, and whenever the weather conditions change significantly;
- (e) Record acoustic source power output while in operation, and any mitigation measures taken; and
- (f) Record and report any instances that are inconsistent with this Annex.

3. While acting in their designated role, PAM operators will:

- (a) Give effective briefings to crew members, and establish clear lines of communication and procedures for onboard operations;
- (b) Deploy, retrieve, test and optimize hydrophone arrays;
- (c) On duty watch, concentrate on continually listening to received signals and/or monitoring PAM display screens in order to detect vocalising cetaceans, except for when required to attend to PAM equipment;
- (d) Use appropriate sample analysis and filtering techniques;
- (e) Record and report all marine mammal detections, including, if discernible, identification of species or groups, position, distance and bearing from vessel and acoustic source;
- (f) Record type and nature of sound, time and duration heard;
- (g) Record general environmental conditions; and
- (h) Record acoustic source power output while in operation, and any mitigation measures taken.

4. To be a trained observer (either MMO or PAM), a person will have —
- (a) Successfully completed an accredited marine mammal observation course or PAM operator course recognised by the Authority;⁶ or
 - (b) Demonstrated all required competencies through an assessment process recognised by the Authority.
5. To be a qualified observer, in addition to the above a person will have logged a minimum of 12 weeks' relevant sea-time engaged in offshore seismic survey operations, either as a MMO or PAM operator under the supervision of an appropriately qualified observer.

PART 3 - OPERATIONS

ARTICLE 6

PRE-START OBSERVATIONS

1. During daylight hours, a visual check should be made (using binoculars from a suitable, high observation platform on the survey vessel that optimally allows for a 360° view) for the presence of marine mammals, prior to the commencement of all operations.
2. Observations for all marine mammals should begin at least 30 minutes prior to use of any high energy acoustic source, with particular focus on a 1.5 km radius around the survey vessel for all marine mammals.
3. In deep waters (>200m) the pre-shooting search should extend to 60 minutes as deep diving species (e.g. sperm whale and beaked whale) are known to dive for longer than 30 minutes. A longer search time in such areas is likely to lead to a greater detection and tracking of deep diving marine mammals.
4. Continual visual observation for all marine mammals using binoculars should be made for all marine mammals during daylight operational hours within the 1.5 km radius from the acoustic source.

5. Consideration should be given to the use of passive acoustic monitoring (PAM) during periods when the likelihood of detecting marine mammals is low because of visibility constraints (i.e. at night or in poor weather conditions).
6. If PAM is used in conjunction with visual monitoring the PAM operators should ensure the system is deployed and being monitored for vocalisations during each designated pre-shooting period.

ARTICLE 7 DELAYED STARTS

1. Discharge of any acoustic source should not commence if a marine mammal is within the mitigation zone.
2. If marine mammals are detected within the mitigation zone the start-up of the acoustic source should be delayed until either their passage, or the transit of the vessel, results in the marine mammals being outside the mitigation zone.
3. In both cases, there should be a 30 minute delay from the time of the last sighting within mitigation zone to the commencement of the soft-start, in order to determine whether the animals have left the area. If PAM is used it is the responsibility of the PAM operators to assess any acoustic detections and determine if there are likely to be marine mammals within the mitigation zone. If the PAM operators consider marine mammals are present within that range then the start of the operation should be delayed as outlined above.

ARTICLE 8 SOFT STARTS

1. Prior to undertaking seismic survey operations (e.g. at the start of a line) the output of the source array should be 'ramped up' gradually, starting with firing only one airgun. The whole array should not be fired without a full soft start. Soft starts should be used for every start-up or in the event that the acoustic source has been shut down, even if no

marine mammals have been seen. The only exception to this is when the acoustic source has been shut down for no longer than 20 minutes.

2. The soft start procedure involves a gradual increase in the number of air-guns fired over a 20 minute period prior to commencement of a line, and serves to deter marine mammals from entering the operational area and give marine mammals the chance to leave the vicinity before the maximum output of the array has been reached. To minimise acoustic impact on the environment a soft start should take no longer than 40 minutes to complete.
3. Once the soft-start has been performed and the airguns are at full power the survey line should start immediately. Seismic Operators should avoid unnecessary firing at full power before commencement of the line.
4. If, for any reason, firing of the airguns has stopped and not restarted for at least 10 minutes, then a pre-shooting search and 20 minute soft-start should be carried out (however, the requirement for a pre-shooting search can be met if there were MMO and PAM operators on duty and observing prior to and during the shutdown). After any unplanned break in firing for less than 10 minutes the MMO should make a visual assessment or PAM operator should monitor acoustically for marine mammals (not a pre-shooting search) within the mitigation zone. If a marine mammal is detected whilst the airguns are not firing the MMO/PAM operator should advise to delay commencement, as per the pre-shooting search, delay and soft start instructions above. If no marine mammals are present in the mitigation zone then they can advise to commence firing the airguns.
5. Visual observations should be maintained continuously during soft starts to detect the presence of marine mammals within 1.5 km of the vessel.
6. If a marine mammal or marine mammals are sighted within an Observation Zone during the soft start procedure, the acoustic source should be shut down. Re-commencement of soft start procedures should take place after 30 minutes has lapsed since the last sighting of the marine mammal within the relevant Observation Zone.

7. When time-sharing, where two or more vessels are operating in adjacent areas and take turns to shoot to avoid causing seismic interference with each other, the soft- start and delay procedures for each vessel should be communicated to, and applied on, all the vessels involved in the surveying.

ARTICLE 9

ONGOING OBSERVATIONS / STOP WORK PROCEDURES

1. Every marine mammal observed should be monitored and their behaviour recorded while they remain within 1.5 km of the acoustic source regardless of whether the source is firing or not.
2. A seismic vessel should shut down the acoustic source if any group containing cow-calf pairs are detected within 1.5 km of the survey vessel while survey work is occurring at full power. Operations should not recommence until the group has been seen to move outside the 1.5 km range, or has not been seen within this range for 30 minutes.
3. For all other instances where marine mammals are detected while the acoustic source is operating at full power, a shut-down distance of 1 km should be applied. The acoustic source should remain shut down until all individuals have moved outside the 1 km radius, or have not been seen within this range for 30 minutes, after which operations can recommence.
4. There should be continued discharge of the acoustic source during mitigations/changes. Discharge of only a limited number of air-guns in the acoustic array is thought to be sufficient to deter marine mammals from entering the operational area during turns and line changes.
5. Notwithstanding paragraph 4 of this Article, if the line change time is expected to be greater than 20 minutes, airgun firing should be terminated at the end of the line and a full 20 minute soft-start undertaken before the next line. A pre-shooting search should also be undertaken during the scheduled line change, and the soft-start delayed if marine mammals are seen within 500 metres of the centre of the airgun array.

ARTICLE 10

RECORDING & REPORTING

1. All sightings of marine mammals during the survey period, including any beyond the maximum mitigation zone boundaries or while in transit, will be recorded using the standardised format included in Schedule 1 to this Annex. A written trip report shall be submitted by the operator to the Authority at the earliest opportunity but no longer than 60 days after completion of the survey.
2. Recording and reporting of observations of other marine species (e.g. marine turtles) are also encouraged noting whether opportunistic or systematic (during required observations).
3. In addition to the above summary report, the qualified observers will submit all raw datasheets directly to the Authority, at the earliest opportunity but no longer than 14 days after completion of each deployment. Proprietary information provided to the Authority through these reporting processes will be treated in confidence. Only data on marine mammal detections will be made publicly available.

SCHEDULE

COVER PAGE

Permit number	COUNTRY	Location	Ship/Platform Name
Client	Contractor	Survey type <input type="checkbox"/> Site <input type="checkbox"/> VSP <input type="checkbox"/> 2D <input type="checkbox"/> WAZ <input type="checkbox"/> 3D <input type="checkbox"/> Piling <input type="checkbox"/> 4D <input type="checkbox"/> Explosives <input type="checkbox"/> OBC <input type="checkbox"/> Other <input type="checkbox"/> 4C	
Start date	End date		

Number of source vessels	Type of source (e.g. airguns)	Number of airguns (only if airguns used)	Source volume (cu.in)
Source depth (metres)	Frequency (range in which peak energy is emitted, in Hz)	Intensity (primary peak-to-peak amplitude in dB re. 1µPa or bar metres)	Shot point interval (metres)
Method of soft start <input type="checkbox"/> increase number <input type="checkbox"/> increase frequency <input type="checkbox"/> increase pressure <input type="checkbox"/> increase number (where permitted) <input type="checkbox"/> increase number of guns and pressure and frequency <input type="checkbox"/> other (where permitted)			

Visual monitoring equipment used (e.g. binoculars, big eyes, etc.)	Magnification of optical equipment (e.g. binoculars)	Height of eye above water surface (metres)	How was distance of animals estimated? <input type="checkbox"/> by eye <input type="checkbox"/> with laser rangefinder <input type="checkbox"/> with rangefinder stick/ callipers <input type="checkbox"/> with reticle binoculars <input type="checkbox"/> by relating to object at known distance <input type="checkbox"/> other
Number of dedicated MMOs		Training of MMOs <input type="checkbox"/> JNCC approved MMO training course for UK waters <input type="checkbox"/> PSO training course for the Gulf of Mexico <input type="checkbox"/> MMO training course for Irish waters <input type="checkbox"/> MMO training course for New Zealand waters <input type="checkbox"/> other <input type="checkbox"/> none	

Was PAM used? <input type="checkbox"/> yes <input type="checkbox"/> no	Number of PAM operators	
Description of PAM equipment		
Range of PAM hydrophones from airguns (metres)	Bearing of PAM hydrophones from airguns (relative to direction of travel)	Depth of PAM hydrophones (metres)

MARINE MAMMAL RECORDING FORM - EFFORT

Regulatory reference number Ship/platform name.....

Record the following for all watches, even if no marine mammals are seen.

START A NEW LINE IF SOURCE ACTIVITY OR WEATHER CHANGES. ENTER DATA AT LEAST EVERY HOUR.

[illegible]

Visual watch or PAM: v = visual watch; p = PAM

Source activity: f = full power; s = soft start; r = reduced power (not soft start); n = not active; v = variable (e.g. tests)

SEA STATE: G = GLASSY (LIKE MIRROR); S = SLIGHT (NO/ FEW WHITE CAPS); C = CHOPPY (MANY WHITE CAPS); R = ROUGH (BIG WAVES, FOAM, SPRAY)

SWELL: O = LOW (< 2 M); M = MEDIUM (2-4 M); L = LARGE (> 4 M)

SWELL: S = LOW (< 2 M); M = MEDIUM (2-4 M); L = LARGE (> 4 M)
 Visibility: p = poor (< 1 km); m = moderate (1-5 km); g = good (> 5 km)

Sun glare: n = none; wf = weak forward; sf = strong forward; vf = variable forward; wb = weak behind; sb = strong behind; vb = variable behind

Precipitation: n = none; l = light rain; m = moderate rain; h = heavy rain; s = snow

MARINE MAMMAL RECORDING FORM – SIGHTINGS

Permit number	Ship/Platform name	Sighting number (start at 1 for first sighting of survey)	Acoustic detection number (start at 500 for first detection of survey)	
Date		Time at start of encounter (UTC, 24hr clock)	Time at end of encounter (UTC, 24hr clock)	
Were animals detected visually and/or acoustically? <input type="checkbox"/> visual <input type="checkbox"/> acoustic <input type="checkbox"/> both		How were the animals first detected? <input type="checkbox"/> visually detected by observer keeping a continuous watch <input type="checkbox"/> visually spotted incidentally by observer or someone else <input type="checkbox"/> acoustically detected by PAM <input type="checkbox"/> both visually and acoustically before operators/ observers informed each other		
Observer's/ operator's name		Position (latitude and longitude)	Water depth (metres)	
Species/ species group		Description (include features such as overall size; shape of head; colour and pattern; size, shape and position of dorsal fin; height, direction and shape of blow; characteristics of whistles/ clicks)		
Bearing to animal (when first seen or heard) (bearing from true north)	Range to animal (when first seen or heard) (metres)			
Total number	Number of adults (visual sightings only)	Number of juveniles (visual sighting only)	Number of calves (visual sightings only)	Photograph taken <input type="checkbox"/> yes <input type="checkbox"/> no
Behaviour (visual sightings only)				
Direction of travel (relative to ship) <input type="checkbox"/> towards ship <input type="checkbox"/> away from ship <input type="checkbox"/> parallel to ship in same direction as ship <input type="checkbox"/> parallel to opposite direction to ship crossing perpendicular ahead of ship			Direction of travel (compass points) <input type="checkbox"/> N <input type="checkbox"/> W <input type="checkbox"/> NE <input type="checkbox"/> NW <input type="checkbox"/> E <input type="checkbox"/> Variable <input type="checkbox"/> SE <input type="checkbox"/> Stationary <input type="checkbox"/> S <input type="checkbox"/> unknown <input type="checkbox"/> SW	
Airgun (or other source) activity when animals first detected <input type="checkbox"/> full power <input type="checkbox"/> not firing <input type="checkbox"/> soft start <input type="checkbox"/> reduced power (other than soft start)		Airgun (or other source) activity when animals last detected <input type="checkbox"/> full power <input type="checkbox"/> not firing <input type="checkbox"/> soft start <input type="checkbox"/> reduced power (other than soft start)		Time animals entered mitigation/ exclusion zone (UTC, 24hr clock) Closest distance of animals from airguns (or other source) (metres)
Time animals left mitigation/ exclusion zone (UTC, 24hr clock) Time of closest approach (UTC, 24hr clock)				
If seen during soft start give: First distance Closest distance Last distance during soft start (metres)		What action was taken? (according to requirements of guidelines/ regulations in country concerned) <input type="checkbox"/> none required <input type="checkbox"/> delay start of firing <input type="checkbox"/> shut-down of active source <input type="checkbox"/> power-down of active source <input type="checkbox"/> power-down then shut-down of active source		Length of power-down and/ or shut-down (if relevant) (length of time until subsequent soft start, in minutes)
Estimated loss of production (if relevant) due to mitigating actions (km)				

ANNEX G**MARINE SCIENTIFIC RESEARCH REGULATION***(Section 32)***Maritime Zones (Marine Scientific Research in the Joint Management Area in the Mascarene Plateau Region) Regulations 2022**

1. These regulations may be cited as the Maritime Zones (Marine Scientific Research in the Joint Management Area in the Mascarene Plateau Region) Regulations 2021.

2. In these regulations —

“Act” means the Maritimes Zones Act Cap 122;

“biological material” includes —

- (a) animal, plants, plant parts or propagation material of marine origin; and
- (b) any other material of plant, animal, fungus, microbial of marine origin and the genetic resources contained therein;

“Convention” means the United Nations Convention on the Law of the Sea of 1982;

“Commission” means the joint commission established under Article 4 of the Treaty;

“Designated Authority” means the designated authority established pursuant to Article 4 of the Treaty or any entity or persons designated by the Joint Commission as the designated authority;

“Joint Management Area” means the Joint Zone described in Article 2 of the Treaty Concerning the Joint Exercise of Sovereign Rights over the Continental Shelf in the Mascarene Plateau Region;

“marine scientific research” or “research” means any research, study or project whether fundamental or applied, intended to increase knowledge about marine environment, including all its resources and living organisms and embraces all related scientific activity for the benefit of mankind and for peaceful purposes;

“person” includes a State, competent international organization or company making an application to the Designated Authority to conduct research;

“Precautionary Principle” means principle 15 of the 1992 Rio Declaration on Environment and Development, which provides that, in order to protect the environment, where there are threats of serious and irreversible damage to the marine environment or threats to human health, a lack of full scientific certainty regarding the extent of adverse effects shall not be used as a reason for postponing measures to prevent or minimise environmental degradation arising in any way from a matter or person or activity regulated under these Regulations;

“Treaty” means the 2014 Treaty concerning the Joint Management of the Continental Shelf in the Mascarene Plateau Region.

3. These regulations shall apply to marine scientific research in the Joint Management Area.
- 4.(1) No person shall conduct research in the Joint Management Area unless the Commission has approved an application to conduct such research.
- (2) A person who wishes to conduct research in the Joint Management Area shall submit an application to the Designated Authority at least 6 months prior to the research.
- (3) An approved application under subregulation (2) to conduct research is deemed an agreement with the Republic of Seychelles to conduct research in accordance with section 25(1) of the Act.
- (4) The application shall contain a full description of —

- (a) the name, the number, tonnage, type and class of vessels;
- (b) the name, nationality, contact details and address of the sponsoring institution, the scientist in charge of the research, and other collaborators and participants;
- (c) the coordinates and charts of the broad area or areas within which the research is to be conducted;
- (d) a description of the nature and objectives of the research, including —
 - (i) the proposed date of commencement and its approximate duration, and the proposed use of the data collected; and
 - (ii) any plans to make the research results internationally available;
- (e) the details of the methods, the equipment to be deployed and subsequently removed, any descriptions of sampling to be carried out and any installations to be used;
- (f) a preliminary assessment of likely impact on the marine environment of the proposed research;
- (g) the details of any intended ports of call;
- (h) the modalities of the participation of any representatives from Seychelles in the research; and
- (i) the expected dates and method of submission of a preliminary report, a final report, and assessment of data, samples and research results.

5.(1) The Commission may, in accordance with Article 249 of the Convention, approve an application to conduct research if the applicant agrees to —

- (a) recognise the right of any representative of Seychelles to participate, or be represented, in the research, in particular on board research vessels and other craft or scientific research installations without obligation to contribute towards the costs of the research;
- (b) provide any competent authority access to all data and samples derived from the research and likewise to provide that competent authority with data which may be copied and samples which may be divided without detriment to their scientific value;
- (c) provide any competent authority an assessment of such data, samples and research results or provide assistance in their assessments or interpretation as the competent authority may require;
- (d) report all meteorological observations to the Seychelles Meteorological Authority established under section 3 of the Meteorology Act 2015 and any other competent authority;
- (e) ensure that the research results are made available through appropriate national or international channels as soon as practicable;
- (f) inform the Designated Authority of any major changes to the research programme from the information provided in the application for consent to conduct research;
- (g) remove the scientific research installations or equipment once the research is completed unless otherwise allowed in writing by the Designated Authority;
- (h) ensure that any scientist involved in the marine research shall not do anything which may be detrimental to any property right or intellectual property right;
- (i) obtain prior written authorisation from the Designated Authority before the publications, utilisation or other exploitation of any

data, information or material collected in the course of, or as a result of the research in the Joint Management Area;

- (j) ensure the activities of the research vessel and the scientists thereon shall not interfere with activities undertaken by Seychelles;
- (k) facilitate return of participants from Seychelles to the port of embarkation or an agreed port;
- (l) ensure that the participants from Seychelles are given an interim report on the research before they leave the vessel and a final report shall be submitted to the Designated Authority as soon as it is available;
- (m) ensure that any commercial use of materials extracted from the Joint Management Area shall be subject to a separate agreement;
- (n) adhere to the provisions of these regulations and any rules of procedures relating to research issued by Seychelles;
- (o) apply the precautionary principle and best environmental practices at all times;
- (p) conduct the research exclusively —
 - (i) for peaceful purposes; and
 - (ii) to increase scientific knowledge for the benefit of mankind;
- (q) not interfere with other legitimate uses of the continental shelf;
- (r) not proceed with research if any act is likely to cause serious harm to the marine environment;
- (s) facilitate and support the participation of representatives from Seychelles;

- (t) immediately submit to the Designated Authority, by telephone and in writing, notice of any incident arising from the research that causes or is likely to cause —
 - (i) serious harm to the marine environment; or
 - (ii) serious harm to the safety, health or welfare of any person;
- (u) cooperate with the Designated Authority in promoting the transfer of technology and scientific knowledge relating to activities in the Joint Management Area so that Seychelles may benefit therefrom.

(2) The Designated Authority and applicant shall initiate and promote —

- (a) programmes for the transfer of technology to the Commission with regard to activities in the Joint Management Area, including, amongst other things, facilitating the access of the Commission to the relevant technology, under fair and reasonable terms and conditions; and
- (b) measures towards the advancement of technology in Seychelles, by providing opportunities for training in marine science and technology to the representatives of Seychelles and for the full participation of these representatives in activities in the Joint Management Area.

(3) The Designated Authority may impose other conditions on an applicant before or after granting approval to conduct research as the Commission may deem necessary.

6.(1) The Commission may refuse an application or revoke the approval to conduct research where —

- (a) the research has direct significance to the exploration and mining of the natural living or non-living resources;

- (b) the information supplied pursuant to regulation 4 is inaccurate;
- (c) the applicant has an overdue outstanding obligation from a prior research;
- (d) the research involves —
 - (i) drilling into the continental shelf;
 - (ii) the use of explosives;
 - (iii) the introduction of harmful substances into the marine environment;
 - (iv) the construction, operation or use of artificial islands, installations or structures, as referred to in Articles 60 and 80 of the Convention;
 - (v) a risk to the marine environment;
 - (vi) an area which has been publicly designated as an area in which exploitation or detailed exploratory operations are occurring or will occur within a reasonable period of time.

(2) Notwithstanding subregulation (1), the Commission may withhold the approval for any reason the Commissions deems reasonable.

7.(1) Research shall not —

- (a) entail any exclusive right of access to the seabed or water column;
 - (b) permit extraction of seabed minerals;
 - (c) constitute the legal basis for any claim to any part of the marine environment or its resources;
- (2) Research shall cease within a particular area on notice in writing being given by the Designated Authority.

8. Notwithstanding these regulations, access and use of biological material of marine origin, including material of natural and potential value having functional units of heredity shall be, in accordance with the Nagoya Protocol, subject to the following conditions —

- (a) the biological material, any progeny derived from it and other derivatives thereof shall remain the property of Seychelles;
- (b) the person conducting research has no right to claim ownership over the biological material collected nor to seek intellectual property rights over that material or any progeny or derivatives thereof;
- (c) subject to regulation 5, a person conducting research may use the biological material and any progeny or derivatives thereof, such as modified or unmodified extracts, for non-commercial purposes only;
- (d) the applicant conducting research shall provide Seychelles with a fair and reasonable share of any benefits arising out of any utilisation of the biological material or its progeny or derivatives —
 - (i) in an amount and a form to be agreed upon between the applicant conducting research and Seychelles; and
 - (ii) through acknowledgment in research results, publications, payments, training, assistance, technology transfer, or other forms of collaboration;
- (e) no person conducting research under these regulations shall commercialise the biological material or any progeny or derivatives thereof unless permission, in writing, from Seychelles is obtained;
- (f) any commercialisation to which the Commission agrees shall be subject to a separate agreement between the person and the Republic of Seychelles, consistent with the principle that

benefits be shared in a fair and equitable manner with Seychelles;

- (g) the person conducting research shall not transfer the biological material or any progeny or derivatives thereof to any other person unless the permission, in writing, of the Designated Authority is obtained;
- (h) the obligations under these Regulations shall also apply to genes derived from the material.

9. An applicant may proceed to conduct research, set out in an application submitted to the Commission in accordance with regulation 4(2), six months after the date on which the Designated Authority received the application unless within four months of the receipt of the application, the Designated Authority has informed the applicant that —

- (a) approval to conduct research is withheld;
- (b) supplementary information is required;
- (c) the information provided is false or inaccurate; or
- (d) the applicant has outstanding obligations to Seychelles in relation to any previous research.

10.(1) The Designated Authority may suspend any research in progress if the research is not being conducted in accordance with the information communicated to Seychelles.

- (2) The Designated Authority shall have the right to require the cessation of any research activities in case of non-compliance with the provisions of regulation 5.
- (3) On notification by the Designated Authority of the decision regarding suspension or cessation of approval, the applicant authorised to conduct research shall terminate the research that are the subject of such a notification.

- 11.(1) A person who conducts any research without approval from the Designated Authority commits an offence and is liable on conviction to a fine of USD200,000.

SCHEDULE

Seychelles and Mauritius Joint Management Area Application for consent to conduct Marine Scientific Research by States or Competent International Organisations

Date: _____

1. General Information

1.1 CRUISE NAME AND/OR NUMBER:

1.2 SPONSORING STATE (S) OR COMPETENT INTERNATIONAL ORGANISATION(S):	
NAME:	
ADDRESS:	
NAME OF DIRECTOR:	

1.3 SCIENTIST IN CHARGE OF THE PROJECT:	
NAME (CV TO BE ATTACHED):	
COUNTRY:	
AFFILIATION:	
ADDRESS:	
TELEPHONE:	
FAX:	
EMAIL:	
WEBSITE:	

ENTITY(IES)/PARTICIPANT(S) FROM MAURITIUS AND SEYCHELLES INVOLVED IN THE PLANNING OF THE PROJECT:	
NAME:	
AFFILIATION:	
ADDRESS:	
TELEPHONE:	
FAX:	
EMAIL:	
WEBSITE:	

2. Description of Project

2.1 NATURE, DURATION AND OBJECTIVES OF THE PROJECT:
2.2 IF DESIGNATED AS PART OF A LARGER SCALE PROJECT, THEN PROVIDE THE NAME OF THE PROJECT AND THE ORGANIZATION RESPONSIBLE FOR COORDINATING THE PROJECT:

2.3 RELEVANT PREVIOUS OR FUTURE RESEARCH PROJECTS:

2.4 PREVIOUS PUBLICATIONS RELATING T O THE PROJECT:

3. **Geographical Areas**

3.1 INDICATE GEOGRAP HICAL AREAS IN WHICH THE PROJECT IS TO BE CONDUCTED (WITH REFE RENCE IN LATITUDE AND LONGITUDE, INCLUDING COORDINATES OF CRUISE TRACK/WAY Y POINTS)

3.2 ATTACH CHART(S) AT AN APPROPRIATE SCALE (1 PAGE, HIGH RESOLUTION) SHOWING THE GEOGRAPHICAL ARE AS OF THE INTENDED WORK AND, AS FAR AS PRACTICABLE, THE LOCATION AND DEPTH OF SAMPLING STATIONS, THE TRACKS OF SURVEY LINES, AND THE LOCATIONS OF INSTALL ATIONS AND EQUIPMENT

4. **Vessel and means to be used**

4.1 PARTICULARS OF V ESSEL:	
NAME:	
TYPE/CLASS:	
NATIONALITY (FLAG STATE):	
IDENTIFICATION NUMBER (IMO/LLOYDS NO.):	
WEBSITE FOR DIAGRAM & SPECIFICATIONS	

OWNER:	
OPERATOR:	
OVERALL LENGTH (METERS):	
MAXIMUM DRAUGHT (METERS):	
DISPLACEMENT/GROSS TONNAGE:	
PROPULSION:	
CRUISING & MAXIMUM SPEED:	
CALL SIGN:	

INMARSAT NUMBER AND METHOD AND CAPABILITY OF COMMUNICATION (INCLUDING EMERGENCY FREQUENCIES):	
NAME OF MASTER:	
NUMBER OF CREW:	
NUMBER OF SCIENTISTS ON BOARD (PLEASE ATTACH LIST AND POSITION):	
PROVIDE COPIES OF RELEVANT DOCUMENTS REQUIRED BY INTERNATIONAL CONVENTIONS AND REGULATIONS:	
OTHER RELEVANT INFORMATION:	

4.2 PARTICULARS OF AIRCRAFT:	
NAME:	
MAKE/MODEL:	
NATIONALITY (FLAG STATE):	
WEBSITE FOR DIAGRAM & SPECIFICATIONS:	
OWNER:	
OPERATOR:	
OVERALL LENGTH (METERS)	

PROPULSION:	
CRUISING & MAXIMUM SPEED:	
REGISTRATION NO.:	
CALL SIGN:	
METHOD AND CAPABILITY OF COMMUNICATION (INCLUDING EMERGENCY FREQUENCIES):	
NAME OF PILOT:	
NUMBER OF CREW:	
NUMBER OF SCIENTISTS ON BOARD (PLEASE ATTACH LIST AND POSI TION):	
DETAILS OF SENSOR PA CKAGES:	
OTHER RELEVANT INFORMATION:	

4.3 PARTICULARS OF A UTONOMOUS UNDERWATER VEHICLE (AUV):	
NAME:	
MANUFACTURER AND MAKE/MODEL:	
NATIONALITY (FLAG ST ATE):	
WEBSITE FOR DIAGRAM & SPECIFICATIONS:	
OWNER:	
OPERATOR:	
OVERALL LENGTH (METERS):	
DISPLACEMENT/GROSS TONNAGE:	
CRUISING & MAXIMUM SPEED:	
RANGE/ENDURANCE:	
METHODS AND CAPABILITY OF COMMUNICATION (INCLUDING EMERGENCY FREQUENCIES):	
DETAILS OF SENSOR PACKAGES:	
OTHER RELEVANT INFORMATION:	

4.4 OTHER CRAFT IN THE PROJECT, INCLUDING ITS USE:

4.5 PARTICULARS OF METHODS AND SCIENTIFIC INSTRUMENTS		
TYPES OF SAMPLES AND MEASUREMENTS:	METHODS TO BE USED:	INSTRUMENTS TO BE USED:

4.6 INDICATE NATURE AND QUANTITY OF SUBSTANCES TO BE RELEASED INTO THE MARINE ENVIRONMENT:

4.7 INDICATE WHETHER DRILLING WILL BE CARRIED OUT. IF YES, PLEASE SPECIFY:

4.8 INDICATE WHETHER EXPLOSIVES WILL BE USED. IF YES, PLEASE SPECIFY TYPE AND TRADE NAME, CHEMICAL CONTENT, DEPTH OF TRADE CLASS AND STOWAGE, SIZE, DEPTH OF DENOTATION, FREQUENCY OF DENOTATION, AND POSITION IN LATITUDE AND LONGITUDE:

5. Installations and Equipment

5.1 DETAILS OF INSTALLATIONS AND EQUIPMENT (INCLUDING DATES OF LAYING, SERVICING, METHOD AND ANTICIPATED TIMEFRAME FOR RECOVERY, AS FAR AS POSSIBLE EXACT LOCATIONS AND DEPTH, AND MEASUREMENTS):

6. Dates

6.1 EXPECTED DATES OF FIRST ENTRY INTO AND FINAL DEPARTURE FROM THE RESEARCH AREA BY THE RESEARCH VESSEL AND/OR OTHER PLATFORMS:

6.2 INDICATE IF MULTIPLE ENTRIES ARE EXPECTED:

7. Port calls

7.1 DATES AND NAMES OF INTENDED PORTS OF CALL:

7.2 ANY SPECIAL LOGISTICAL REQUIREMENTS AT PORTS OF CALL:

7.3 NAME/ADDRESS/TELEPHONE OF SHIPPING AGENT (IF AVAILABLE):

8. Participation of the representatives of Seychelles and Mauritius

8.1 PLEASE PROVIDE MODALITIES OF THE PARTICIPATION OF THE REPRESENTATIVES OF SEYCHELLES AND MAURITIUS IN THE RESEARCH PROJECT:

8.2 PROPOSED DATES AND PORTS FOR EMBARKATION/ DISEMBARKATION:

9.2 ANTICIPATED DATES OF SUBMISSION TO THE DESIGNATED AUTHORITY OF THE FINAL REPORT:

9.3 PROPOSED MEANS FOR ACCESS BY THE DESIGNATED AUTHORITY TO DATA (INCLUDING FORMAT) AND SAMPLES:

9.4 PROPOSED MEANS TO PROVIDE THE DESIGNATED AUTHORITY WITH ASSESSMENT OF DATA, SAMPLES AND RESEARCH RESULTS:

9.5 PROPOSED MEANS TO PROVIDE ASSISTANCE IN ASSESSMENT OR INTERPRETATION OF DATA, SAMPLES AND RESEARCH RESULTS:

9.6 PROPOSED MEANS OF MAKING RESULTS INTERNATIONALLY AVAILABLE:

10. Other permits submitted

10. INDICATE OTHER TYPES OF PERMITS ANTICIPATED FROM MAURITIUS AND SEYCHELLES (IF ANY) FOR THIS RESEARCH (RECEIVED OR PENDING):

11. PLEASE PROVIDE DETAILS OF INSURANCE AGAINST ENVIRONMENTAL DAMAGE.

I, DULY MANDATED REPRESENTATIVE OF HEREBY AFFIRM THAT THE INFORMATION PROVIDED ABOVE IS CORRECT AND ACCURATE.

Signature:

Contact information of the focal point:

Name:

Country:

Affiliation:

Address:

Telephone:

Fax:

Email:

ANNEX H**[Part B, (3) (b)]****Geographical coordinates (DATUM WGS 84) delineating the
Seychelles-Mauritius Joint Zone.**

Coordinates ID	Latitude (decimal deg)	Longitude (decimal deg)
ECS 1	-4.90806007	59.27680588
ECS 2	-4.90956497	59.28105164
ECS 3	-4.91540956	59.29670334
ECS 4	-4.92151403	59.31225586
ECS 5	-4.92787600	59.32770157
ECS 6	-4.93449545	59.34303665
ECS 7	-4.94137001	59.35826111
ECS 8	-4.94849682	59.37337112
ECS 9	-4.95587683	59.38836288
ECS 10	-4.96350431	59.40323257
ECS 11	-4.97137928	59.41796875
ECS 12	-4.97949934	59.43257141
ECS 13	-4.98786354	59.44704437
ECS 14	-4.99646616	59.46137238
ECS 15	-5.00530624	59.47555161
ECS 16	-5.01438284	59.48958588
ECS 17	-5.02369118	59.50346756
ECS 18	-5.03323078	59.51719284
ECS 19	-5.04299784	59.53075790
ECS 20	-5.05298948	59.54415894
ECS 21	-5.06320477	59.55739212
ECS 22	-5.07363844	59.57045746
ECS 23	-5.08429050	59.58334732
ECS 24	-5.09515572	59.59605789
ECS 25	-5.10623217	59.60858536
ECS 26	-5.11751652	59.62093353
ECS 27	-5.12900496	59.63308716
ECS 28	-5.14069462	59.64505005
ECS 29	-5.15258312	59.65681839
ECS 30	-5.16466522	59.66838837
ECS 31	-5.17693901	59.67975616
ECS 32	-5.18940115	59.69091797
ECS 33	-5.20204639	59.70186615

Coordinates ID	Latitude (decimal deg)	Longitude (decimal deg)
ECS 34	-5.21487331	59.71261215
ECS 35	-5.22787952	59.72314072
ECS 36	-5.24105835	59.73344803
ECS 37	-5.25440645	59.74353409
ECS 38	-5.26792240	59.75340271
ECS 39	-5.28160143	59.76304626
ECS 40	-5.29543781	59.77246094
ECS 41	-5.30942869	59.78164291
ECS 42	-5.32357216	59.79058838
ECS 43	-5.33786345	59.79930496
ECS 44	-5.35229826	59.80777740
ECS 45	-6.04989910	60.20489120
ECS 46	-6.33353949	61.16790390
ECS 47	-6.33209372	61.17536163
ECS 48	-6.32918072	61.19184875
ECS 49	-6.32654333	61.20837402
ECS 50	-6.32418060	61.22494888
ECS 51	-6.32209444	61.24155807
ECS 52	-6.32028484	61.25819778
ECS 53	-6.31875229	61.27486801
ECS 54	-6.31749725	61.29155731
ECS 55	-6.31652117	61.30826569
ECS 56	-6.31582165	61.32498932
ECS 57	-6.31540155	61.34172058
ECS 58	-6.31525993	61.35845566
ECS 59	-6.31539631	61.37519073
ECS 60	-6.31581163	61.39192200
ECS 61	-6.31650543	61.40864563
ECS 62	-6.31747723	61.42535400
ECS 63	-6.31872654	61.44204330
ECS 64	-6.32025385	61.45871353
ECS 65	-6.32205820	61.47535324
ECS 66	-6.32413960	61.49196243
ECS 67	-6.32649660	61.50853348
ECS 68	-6.32912970	61.52506638
ECS 69	-6.33203697	61.54154968
ECS 70	-6.33521795	61.55797958
ECS 71	-6.33867264	61.57435989
ECS 72	-6.34240007	61.59067917
ECS 73	-6.34639788	61.60693741

Coordinates ID	Latitude (decimal deg)	Longitude (decimal deg)
ECS 74	-6.35066462	61.62312317
ECS 75	-6.35520077	61.63923264
ECS 76	-6.36000395	61.65526581
ECS 77	-6.36507416	61.67122269
ECS 78	-6.37040901	61.68709183
ECS 79	-6.37600660	61.70286560
ECS 80	-6.38186646	61.71854782
ECS 81	-6.38798571	61.73412704
ECS 82	-6.39436436	61.74960709
ECS 83	-6.40099859	61.76497269
ECS 84	-6.40788794	61.78023148
ECS 85	-6.41503096	61.79537201
ECS 86	-6.42242527	61.81039810
ECS 87	-6.43006754	61.82529068
ECS 88	-6.43795681	61.84006119
ECS 89	-6.44609165	61.85469437
ECS 90	-6.45446777	61.86919403
ECS 91	-6.46308422	61.88354874
ECS 92	-6.47193909	61.89775848
ECS 93	-6.48102808	61.91181564
ECS 94	-6.49035025	61.92572784
ECS 95	-6.49990320	61.93947983
ECS 96	-6.50968266	61.95307159
ECS 97	-6.51968861	61.96650314
ECS 98	-6.52991676	61.97976303
ECS 99	-6.54036427	61.99285126
ECS 100	-6.55102587	62.00576401
ECS 101	-6.56190205	62.01849747
ECS 102	-6.57298803	62.03104782
ECS 103	-6.58428144	62.04341125
ECS 104	-6.59578037	62.05558777
ECS 105	-6.60747910	62.06757355
ECS 106	-6.64228535	62.14421082
ECS 107	-6.64349413	62.14431381
ECS 108	-6.66018200	62.14571762
ECS 109	-6.67687464	62.14706802
ECS 110	-6.69357014	62.14837265
ECS 111	-6.71026993	62.14962769

Coordinates ID	Latitude (decimal deg)	Longitude (decimal deg)
ECS 112	-6.72697210	62.15083694
ECS 113	-6.74367857	62.15199661
ECS 114	-6.76038790	62.15311050
ECS 115	-6.77710056	62.15417862
ECS 116	-6.79381609	62.15519714
ECS 117	-6.81053400	62.15616989
ECS 118	-6.82725477	62.15709305
ECS 119	-6.84397793	62.15797043
ECS 120	-6.86070395	62.15879440
ECS 121	-6.87743282	62.15957642
ECS 122	-6.89416313	62.16030884
ECS 123	-6.90895700	62.16091537
ECS 124	-6.91269541	62.17265320
ECS 125	-6.91794109	62.18856430
ECS 126	-6.92334414	62.20442963
ECS 127	-6.92890596	62.22024155
ECS 128	-6.93462420	62.23598862
ECS 129	-6.94049788	62.25168228
ECS 130	-6.94652843	62.26731491
ECS 131	-6.95271444	62.28289032
ECS 132	-6.95905590	62.29840469
ECS 133	-6.96554995	62.31385040
ECS 134	-6.97219896	62.32923508
ECS 135	-6.97900009	62.34455109
ECS 136	-6.98595285	62.35979462
ECS 137	-6.99305725	62.37496948
ECS 138	-7.00031376	62.39007950
ECS 139	-7.00771809	62.40510941
ECS 140	-7.01527262	62.42007065
ECS 141	-7.02297592	62.43495178
ECS 142	-7.03082609	62.44975662
ECS 143	-7.03882408	62.46448517
ECS 144	-7.04696798	62.47912598
ECS 145	-7.05525827	62.49369049
ECS 146	-7.06369352	62.50817871
ECS 147	-7.07227278	62.52257156
ECS 148	-7.08099365	62.53688812
ECS 149	-7.08985615	62.55110931
ECS 150	-7.09886122	62.56524277
ECS 151	-7.10800505	62.57928848
ECS 152	-7.11728811	62.59323883
ECS 153	-7.12671137	62.60710144

Coordinates ID	Latitude (decimal deg)	Longitude (decimal deg)
ECS 154	-7.13627148	62.62086487
ECS 155	-7.14596748	62.63453293
ECS 156	-7.15579844	62.64810181
ECS 157	-7.16576481	62.66157913
ECS 158	-7.17586517	62.67495346
ECS 159	-7.18609715	62.68822861
ECS 160	-7.19646263	62.70139694
ECS 161	-7.20695877	62.71446228
ECS 162	-7.21758318	62.72742462
ECS 163	-7.22833681	62.74028015
ECS 164	-7.23921728	62.75302505
ECS 165	-7.25022507	62.76566696
ECS 166	-7.26135778	62.77819824
ECS 167	-7.27261400	62.79061127
ECS 168	-7.28399372	62.80291367
ECS 156	-7.15579844	62.64810181
ECS 169	-7.29549551	62.81510544
ECS 170	-7.30711746	62.82718277
ECS 171	-7.31886101	62.83914566
ECS 172	-7.33071995	62.85098267
ECS 173	-7.34269810	62.86270523
ECS 174	-7.35479164	62.87430954
ECS 175	-7.36700201	62.88578796
ECS 176	-7.37932396	62.89714813
ECS 177	-7.39175987	62.90838623
ECS 178	-7.40430641	62.91949844
ECS 179	-7.41696167	62.93048477
ECS 180	-7.42972660	62.94134140
ECS 181	-7.44259834	62.95207214
ECS 182	-7.45557690	62.96267700
ECS 183	-7.46866083	62.97314835
ECS 184	-7.48184776	62.98348999
ECS 185	-7.49513769	62.99370193
ECS 186	-7.50852728	63.00377655
ECS 187	-7.91089344	63.30073547

Coordinates ID	Latitude (decimal deg)	Longitude (decimal deg)
ECS 188	-8.63939953	63.99520874
ECS 189	-8.64674473	64.00283813
ECS 190	-8.65851116	64.01480865
ECS 191	-8.67039585	64.02666473
ECS 192	-8.68239594	64.03840637
ECS 193	-8.69451237	64.05001831
ECS 194	-8.70674229	64.06151581
ECS 195	-8.71908665	64.07288361
ECS 196	-8.73154259	64.08412933
ECS 197	-8.74411106	64.09525299
ECS 198	-8.75678825	64.10624695
ECS 199	-8.76957417	64.11711884
ECS 200	-8.78246784	64.12786102
ECS 201	-8.79546642	64.13847351
ECS 202	-8.80856991	64.14895630
ECS 203	-8.82177639	64.15930176
ECS 204	-8.83508396	64.16952515
ECS 205	-8.84849358	64.17960358
ECS 206	-8.86200142	64.18955231
ECS 207	-8.87560654	64.19937134
ECS 208	-8.88930893	64.20904541
ECS 209	-8.90310764	64.21858215
ECS 210	-8.91699982	64.22798157
ECS 211	-8.93098354	64.23724365
ECS 212	-8.94505882	64.24636841
ECS 213	-8.95922375	64.25534821
ECS 214	-8.97347832	64.26418304
ECS 215	-8.98781776	64.27288055
ECS 216	-9.00224400	64.28143311
ECS 217	-9.01675510	64.28984070
ECS 218	-9.03134918	64.29809570
ECS 219	-9.04602337	64.30621338
ECS 220	-9.06077766	64.31417847
ECS 221	-9.72202778	64.66599274
ECS 222	-9.73690510	64.67373657
ECS 223	-9.75185776	64.68132782
ECS 224	-9.76688576	64.68877411
ECS 225	-9.78198719	64.69606781
ECS 226	-9.79715919	64.70320892
ECS 227	-9.81239986	64.71019745

Coordinates ID	Latitude (decimal deg)	Longitude (decimal deg)
ECS 228	-9.82771015	64.71703339
ECS 229	-9.84308815	64.72371674
ECS 230	-9.85853100	64.73023987
ECS 231	-9.87403774	64.73661041
ECS 232	-9.88960648	64.74282837
ECS 233	-9.90523720	64.74888611
ECS 234	-9.92092419	64.75479126
ECS 235	-9.93666935	64.76053619
ECS 236	-9.95247269	64.76611328
ECS 237	-9.96832848	64.77153778
ECS 238	-9.98423862	64.77680206
ECS 239	-10.00019836	64.78191376
ECS 240	-10.01620960	64.78685760
ECS 241	-10.03226757	64.79164124
ECS 242	-10.04837227	64.79626465
ECS 243	-10.06452084	64.80072021
ECS 244	-10.08071423	64.80502319
ECS 245	-10.09694862	64.80915070
ECS 246	-10.11322403	64.81312561
ECS 247	-10.12953854	64.81693268
ECS 248	-10.14588833	64.82057953
ECS 249	-10.16227436	64.82405090
ECS 250	-10.17869282	64.82736206
ECS 251	-10.19514370	64.83051300
ECS 252	-10.21162510	64.83348846
ECS 253	-10.22813511	64.83630371
ECS 254	-10.24467182	64.83895874
ECS 255	-10.26123428	64.84143829
ECS 256	-10.27782059	64.84375000
ECS 257	-10.29442883	64.84589386
ECS 258	-10.31105804	64.84787750
ECS 259	-10.32770443	64.84968567
ECS 260	-10.34436989	64.85132599
ECS 261	-10.36104870	64.85280609
ECS 262	-10.37774277	64.85411072
ECS 263	-10.39444828	64.85524750
ECS 264	-10.41116428	64.85622406
ECS 265	-10.42788887	64.85702515

Coordinates ID	Latitude (decimal deg)	Longitude (decimal deg)
ECS 266	-10.44462109	64.85765076
ECS 267	-10.46135712	64.85812378
ECS 268	-10.47809792	64.85841370
ECS 269	-10.49031353	64.85850525
ECS 270	-10.49157715	64.85778809
ECS 271	-10.50604057	64.84926605
ECS 272	-10.52036285	64.84049225
ECS 273	-10.53453636	64.83148956
ECS 274	-10.54855919	64.82224274
ECS 275	-10.56242657	64.81275940
ECS 276	-11.53587055	64.56176758
ECS 277	-11.54926395	64.56311798
ECS 278	-11.56594849	64.56450653
ECS 279	-11.58265495	64.56561279
ECS 280	-11.59937763	64.56644440
ECS 281	-11.61611176	64.56698608
ECS 282	-11.63285160	64.56725311
ECS 283	-11.64959335	64.56723022
ECS 284	-11.66633320	64.56692505
ECS 285	-11.68306541	64.56633759
ECS 286	-11.69978523	64.56546783
ECS 287	-11.71648884	64.56431580
ECS 288	-11.73317146	64.56288147
ECS 289	-11.74982834	64.56115723
ECS 290	-11.76645279	64.55915833
ECS 291	-11.78304386	64.55688477
ECS 292	-11.79959488	64.55432129
ECS 293	-11.81610012	64.55148315
ECS 294	-11.83255959	64.54836273
ECS 295	-11.84896374	64.54496002
ECS 296	-11.85276985	64.54411316
ECS 297	-11.86732674	64.53952789
ECS 298	-11.88326836	64.53433990
ECS 299	-11.89915848	64.52898407
ECS 300	-11.91499519	64.52346039
ECS 301	-11.93077564	64.51778412
ECS 302	-11.94649982	64.51194763
ECS 303	-11.96216488	64.50595093
ECS 304	-11.97776890	64.49979401
ECS 305	-11.99331379	64.49347687
ECS 306	-12.00879383	64.48699951

Coordinates ID	Latitude (decimal deg)	Longitude (decimal deg)
ECS 308	-12.03956032	64.47357941
ECS 309	-12.05484200	64.46662903
ECS 310	-12.07005405	64.45952606
ECS 311	-12.08519459	64.45227814
ECS 312	-12.10026455	64.44486237
ECS 313	-12.11526108	64.43729401
ECS 314	-12.13018131	64.42958069
ECS 315	-12.14502525	64.42170715
ECS 316	-12.15979004	64.41368866
ECS 317	-12.17447376	64.40551758
ECS 318	-12.18907642	64.39720154
ECS 319	-12.20359898	64.38872528
ECS 320	-12.21803570	64.38011169
ECS 321	-12.22765923	64.37423706
ECS 322	-12.22867489	64.37349701
ECS 323	-12.24215317	64.36339569
ECS 324	-12.25546074	64.35307312
ECS 325	-12.26859665	64.34251404
ECS 326	-12.28155994	64.33174133
ECS 327	-12.29434299	64.32074738
ECS 328	-12.30694199	64.30953217
ECS 329	-12.31935501	64.29811096
ECS 330	-12.33158112	64.28647614
ECS 331	-12.34361267	64.27463531
ECS 332	-12.35544777	64.26259613
ECS 333	-12.36708546	64.25035095
ECS 334	-12.37851810	64.23790741
ECS 335	-12.38974571	64.22527313
ECS 336	-12.40076351	64.21245575
ECS 337	-12.41156864	64.19944763
ECS 338	-12.42216015	64.18625641
ECS 339	-12.43253326	64.17288208
ECS 340	-12.44268513	64.15933228
ECS 341	-12.45261288	64.14561462
ECS 342	-12.46231174	64.13173676
ECS 343	-12.47178364	64.11769104
ECS 344	-12.48102188	64.10347748
ECS 345	-12.49002647	64.08911133
ECS 346	-12.49879360	64.07460022
ECS 347	-12.50732136	64.05993652

Coordinates ID	Latitude (decimal deg)	Longitude (decimal deg)
ECS 348	-12.51560688	64.04513550
ECS 349	-12.52364826	64.03018188
ECS 350	-12.53144264	64.01510620
ECS 351	-12.53898716	63.99989319
ECS 352	-12.54628086	63.98455811
ECS 353	-12.55332184	63.96909332
ECS 354	-12.56010818	63.95351791
ECS 355	-12.56663799	63.93782425
ECS 356	-12.57290745	63.92202377
ECS 357	-12.57891941	63.90611267
ECS 358	-12.58466625	63.89011002
ECS 359	-12.59015179	63.87400436
ECS 360	-12.59537029	63.85780716
ECS 361	-12.60032272	63.84152603
ECS 362	-12.60500622	63.82516098
ECS 363	-13.46895790	63.30273819
ECS 364	-13.48847485	63.30590820
ECS 365	-13.50505543	63.30826950
ECS 366	-13.52167130	63.31034470
ECS 367	-13.53831768	63.31214142
ECS 368	-13.55499172	63.31365204
ECS 369	-13.57168865	63.31488419
ECS 370	-13.58840275	63.31582642
ECS 371	-13.60513020	63.31648254
ECS 372	-13.62186623	63.31686020
ECS 373	-13.63860512	63.31694412
ECS 374	-13.65534401	63.31674576
ECS 375	-13.67207718	63.31626511
ECS 376	-13.68880081	63.31549835
ECS 377	-13.70550919	63.31444550
ECS 378	-13.72219753	63.31311035
ECS 379	-13.73886299	63.31148529
ECS 380	-13.75549793	63.30958176
ECS 381	-13.77209949	63.30739594
ECS 382	-13.78866482	63.30492020
ECS 383	-13.80518627	63.30216599
ECS 384	-13.82166004	63.29912949
ECS 385	-13.83808231	63.29581070
ECS 386	-13.85444927	63.29221344
ECS 387	-13.87075520	63.28833771

Coordinates ID	Latitude (decimal deg)	Longitude (decimal deg)
ECS 388	-13.88699532	63.28418350
ECS 389	-13.90316677	63.27975082
ECS 390	-13.91926098	63.27504349
ECS 391	-13.93527794	63.27006149
ECS 392	-13.95121098	63.26480484
ECS 393	-13.96705627	63.25927734
ECS 394	-13.98280811	63.25347900
ECS 395	-13.99846554	63.24740982
ECS 396	-15.00259304	63.22919846
ECS 397	-15.01154613	63.23255157
ECS 398	-15.02736378	63.23817825
ECS 399	-15.04327106	63.24353790
ECS 400	-15.05926418	63.24862289
ECS 401	-15.07533455	63.25342941
ECS 402	-15.09148216	63.25796509
ECS 403	-15.10770130	63.26222229
ECS 404	-15.12398624	63.26620483
ECS 405	-15.14033318	63.26990509
ECS 406	-15.15673828	63.27332306
ECS 407	-15.17319489	63.27646255
ECS 408	-15.18970108	63.27931213
ECS 409	-15.20625210	63.28188705
ECS 410	-15.22284031	63.28417969
ECS 411	-15.23946476	63.28618240
ECS 412	-15.25611877	63.28790283
ECS 413	-15.27279758	63.28933334
ECS 414	-15.28949738	63.29048157
ECS 415	-15.30621433	63.29133606
ECS 416	-15.32294273	63.29191208
ECS 417	-15.33967781	63.29219437
ECS 418	-15.35641479	63.29219437
ECS 419	-15.37314892	63.29190826
ECS 420	-15.38987637	63.29132843
ECS 421	-15.40659332	63.29046631
ECS 422	-15.42329121	63.28931046
ECS 423	-15.43997192	63.28787613
ECS 424	-15.45662403	63.28615189
ECS 425	-15.47324753	63.28414154

Coordinates ID	Latitude (decimal deg)	Longitude (decimal deg)
ECS 426	-15.48983574	63.28184128
ECS 427	-15.50638485	63.27925873
ECS 428	-15.52288914	63.27639389
ECS 429	-15.53934574	63.27324677
ECS 430	-15.55574894	63.26981354
ECS 431	-15.57209492	63.26609802
ECS 432	-15.58837700	63.26210403
ECS 433	-15.60459232	63.25782776
ECS 434	-15.62073612	63.25327301
ECS 435	-15.63680649	63.24843979
ECS 436	-15.65279388	63.24332809
ECS 437	-15.66869640	63.23794174
ECS 438	-15.68451118	63.23228836
ECS 439	-15.70023251	63.22635269
ECS 440	-15.71585274	63.22015381
ECS 441	-15.73137283	63.21368790
ECS 442	-15.74678612	63.20695114
ECS 443	-15.76208591	63.19994736
ECS 444	-15.77727318	63.19268036
ECS 445	-15.79233932	63.18515778
ECS 446	-15.80728149	63.17736816
ECS 447	-15.82209682	63.16932678
ECS 448	-15.83677864	63.16102982
ECS 449	-15.85132599	63.15247726
ECS 450	-15.86573219	63.14367294
ECS 451	-15.87999344	63.13462830
ECS 452	-15.89410686	63.12532806
ECS 453	-15.89661980	63.12361526

Coordinates ID	Latitude (decimal deg)	Longitude (decimal deg)
34	-15.79002778	63.10013889
35	-15.59972222	63.04955556
36	-15.22291667	62.91305556
37	-14.99580556	62.80525000
38	-14.37400000	62.46211111
39	-13.48758333	61.56097222
40	-12.98025000	60.39572222
41	-12.93102778	59.04275000
42	-12.93450000	59.02105556
43	-11.61919444	59.89227778
44	-11.40336111	59.96177778
45	-10.48425000	60.08894444
46	-10.02905556	60.05661111
47	-9.41155556	59.90933333
48	-9.26716667	59.85652778
MS 1	-8.43648564	59.38658331
EZ1	-7.95331969	59.54675947
EZ2	-7.47748800	59.63139861
EZ3	-6.74310167	59.62970689
EZ4	-6.42679378	59.57978517
EZ5	-5.41164578	59.19109953