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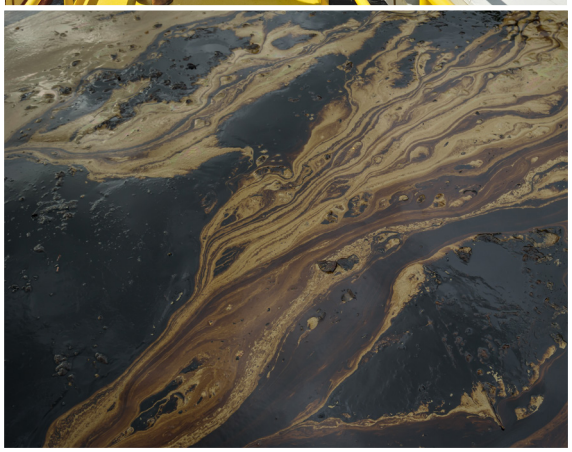
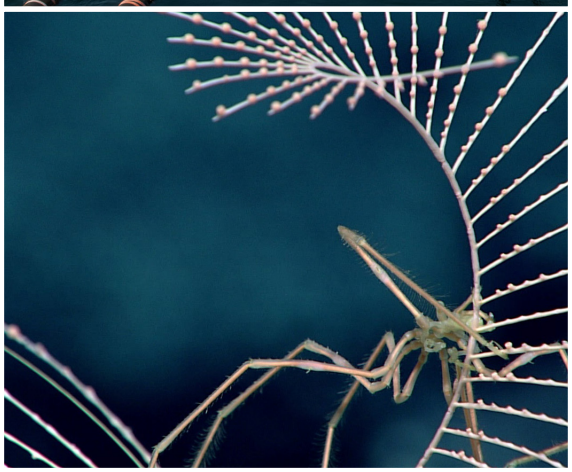


Study on an Environmental Compensation Fund for activities in the Area



INTERNATIONAL SEABED AUTHORITY

Study on an Environmental Compensation Fund for activities in the Area

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International Seabed Authority
14-20 Port Royal Street
Kingston, Jamaica
Tel: +1 876 922-9105
Website: www.isa.org.jm

CONTENTS

LIST OF ACRONYMS AND ABBREVIATIONS

CLC	Coventions of Civil Liability for Oil Pollution Damage
CLRF	Contingent Liability and Rehabilitation Fund
CSC	1997 Convention on Supplementary Compensation
Draft Regulations	Draft regulations on exploitation of mineral resources in the Area
EAR Fund	Extractive Areas Rehabilitation Fund
ECF	Environmental Compensation Fund
EEZ	Exclusive Economic Zone
EPG	Environmental Performance Guarantee
FMRDF	Final Mine Rehabilitation and Decommissioning Fund
HNS	Hazardous and Noxious Substances
IOPC Funds	International Oil Pollution Compensation Funds
ISA	International Seabed Authority
ITLOS	International Tribunal for the Law of the Sea
LTC	Legal and Technical Commission
LNG	Liquefied natural gases
LPG	Liquefied petroleum gases
MEPA	Mineral Exploration and Production Agreement
NPFC	National Pollution Funds Center
OPOL Agreement	Offshore Pollution Liability Agreement
SDC	Seabed Disputes Chamber
SOPF	Ship-source Oil Pollution Fund
The Area	The international seabed area
UNCC	United Nations Compensation Commission
UNC Fund	United Nations Compensation Fund
UNCLOS	United Nations Convention on the Law of the Sea

FOREWORD

I am pleased to introduce this important study on an environmental compensation fund for activities in the international seabed Area. The idea that there should exist a compensation fund to cover uncompensated damage to the marine environment was raised by the Seabed Disputes Chamber of the International Tribunal for the Law of the Sea in its 2011 advisory opinion on the responsibilities and obligations of sponsoring States. The Chamber was concerned that there may be circumstances where a contractor sponsored by a State party to UNCLOS is unable, for whatever reason, to meet its liability in full, while at the same time, the sponsoring State is not liable because it has fully discharged its responsibilities under article 139, paragraph 2, of UNCLOS.

Strict implementation of the draft regulations for exploitation—and their associated standards and guidelines—currently under consideration by the Council should, of course, ensure that all activities in the Area are carried out responsibly and in accordance with good industry practice, and that no serious harm is caused to the marine environment. "No serious harm" is, indeed, the principal and common objective of the ISA, as well as sponsoring States and contractors. For this reason, the regulations set out measures designed to avoid, minimize, mitigate and contain any harmful impacts from contractors' activities.

Of course, in the rare and unforeseen event that there is damage, UNCLOS and the regulations also set out a complete system of responsibility and liability. In addition to far-reaching enforcement provisions, which would allow ISA to immediately close down any activity causing damage, this also includes provisions for mandatory insurance and the provision of financial guarantees. As the Seabed Disputes Chamber noted, however, this still leaves a residual "gap" in the unlikely event that a contractor is unable to meet its liability through insurance, financial guarantee or direct payment of compensation.

This study aims to fill that gap by outlining the legal and practical issues relating to the establishment of a compensation fund. It carefully delineates the precise scope of the proposed fund and discusses critical issues that will need to be considered, including: compensable damage; type of liability and exclusions; the standard of proof required for claims; contributing entities and parameters for contributions; the necessary size of the fund; the amount of available compensation and compensation caps; modalities of administration and access; and dispute settlement. In so doing, I hope the study will succeed in clarifying the issues under discussion in the Council and the Legal and Technical Commission.

I am grateful to colleagues in the Office of Legal Affairs of the Secretariat for their hard work in compiling this study. I commend this study to the membership of ISA.

Michael W. Lodge
Secretary-General
International Seabed Authority

EXECUTIVE SUMMARY

The present study provides background information for the establishment of an environmental compensation fund (ECF) for activities in the international seabed area (the Area). The creation of such a fund is currently under discussion in the context of the development of the Draft Exploitation Regulations for exploitation of mineral resources in the Area.

The relevant rules of international law are contained in the United Nations Convention on the Law of the Sea (UNCLOS), in particular its Part XI and Annex III, as well as in the 1994 Agreement relating to the implementation of Part XI (1994 Agreement).

The Seabed Disputes Chamber (SDC) of the International Tribunal for the Law of the Sea, in its advisory opinion rendered in 2011 concerning *Responsibilities and obligations of States sponsoring persons and entities with respect to activities in the Area*, identified a gap in the legal regime governing liability for environmental damage in the context of activities in the Area. This relates, notably, to the situation where a contractor sponsored by a State party to UNCLOS incurs liability and is under a duty to provide compensation but is unable to meet its liability in full while the sponsoring State is not liable under article 139, paragraph 2, of UNCLOS. The SDC suggested that, under such circumstances, the ISA should consider the establishment of a fund to compensate for the damage not covered.

Against this background, the present study assesses the main features of existing international environmental compensation funds, ranging from those that are operating (or may operate in the future) in the maritime sphere, such as the International Oil Pollution Compensation Funds (1992 Fund and Supplementary Fund) and the Hazardous and Noxious Substances Fund, to those other mechanisms of a various nature that exist in the fields of liability for nuclear damage and liability for damage caused in connection with the transboundary movement of hazardous waste. The United Nations Compensation Commission and the United Nations Compensation Fund, entrusted with the handling of claims for damage caused by Iraq's unlawful invasion and occupation of Kuwait, is also considered, in particular in light of its modalities of establishment and administration. Funds at the national level in the context of land-based mining and offshore activities were also reviewed in the preparation of the study.

Because of the different contexts in which they operate, existing funds may not be transposed as such for the creation of the proposed ECF for activities in the Area. A section of the study is therefore devoted to setting out the specificities of the Area from a legal, geographical and operational standpoint that need to be taken into account in establishing the proposed ECF.

The last section of the study, before the concluding remarks, sets out a number of suggestions relating to the creation of the proposed ECF by focusing on key issues such as the notion of compensable damage, the evaluation of damage and the existence of a cap on compensation, the modalities of access to the funds, the liability standard and any applicable exclusion, the standard of proof required, the identification of the contributing entities, the parameters for contribution, the size of the fund, the modalities of administration of the fund, insurance aspects and dispute settlement.

I. INTRODUCTION

The establishment of an ECF for activities in the Area is currently under discussion at the International Seabed Authority (ISA) in the context of the development of the Draft Exploitation Regulations on exploitation of mineral resources in the Area (Draft Exploitation Regulations).[1] Section 5 of Part IV of the Draft Exploitation Regulations provides for the establishment of such a fund, outlines possible purposes of an ECF as well as how it can be funded.

The United Nations Convention on the Law of the Sea (UNCLOS),[2] in particular its Part XI and Annex III, and the 1994 Agreement relating to the implementation of Part XI of UNCLOS[3] provide the normative framework applicable to the Area and to activities exercised therein. The SDC of the International Tribunal for the Law of the Sea (ITLOS), in its advisory opinion of 2011 concerning *Responsibilities and obligations of States sponsoring persons and entities with respect to activities in the Area*,[4] provided a basis for the creation of the envisaged ECF by highlighting a gap in the liability regime applicable to activities in the Area.

The Draft Exploitation Regulations address the question of the responsibility and liability of the ISA and the contractor for damage to the marine environment in section 7 of Annex X (providing for standard clauses for exploitation contracts), on one hand, and the envisaged ECF in section 5 of Part IV, on the other hand.

With regard to the latter aspect, the Legal and Technical Commission (LTC) of ISA requested the Secretariat to reflect on the discussions relating to this topic, with a view to advancing the rationale, purpose and funding of an ECF and on how to ensure the adequacy of funding.[5] The present study aims to respond to that request.

Lorenzo Schiano di Pepe, Professor of Law, University of Genoa was engaged in the preparation of this report.

In the Draft Exploitation Regulations, the ECF has multiple purposes, including funding of the implementation of any necessary measures designed to prevent, limit or remediate any damage as well as funding of research into marine techniques and best practices, education and training in relation to the protection of the marine environment, and research into techniques for restoration and rehabilitation. However, the discussions held so far within the Council on this issue indicate that there seems to be a general sentiment that such a fund shall be only

[1] Draft Exploitation Regulations on exploitation of mineral resources in the Area, International Seabed Authority, ISBA/25/C/WP.1, 22 March 2019.
[2] United Nations, Treaty Series, vol. 1833, No. 31363.
[3] United Nations, Treaty Series, vol. 1836, No. 31364.
[4] Responsibilities and obligations of States sponsoring persons and entities with respect to activities in the Area Advisory opinion, 1 February 2011, *ITLOS Reports* 2011, p.10.
[5] Draft regulations on exploitation of mineral resources in the Area (ISBA/25/C/18), para. 31.

for compensation purposes and shall not cover other aspects,[6] with suggestions that the other aspects be covered by a separate fund or mechanism. The Finance Committee of ISA has given preliminary consideration to such a separate fund in the context of its discussions of the issue of equitable sharing of financial and other economic benefits. As a result, the present study focuses on the compensatory aspects of the proposed ECF.

In addition, a number of other aspects have also been raised, prompting the need to further consider the issue, such as: the types of damages for which access to the ECF would be possible; the entities eligible to seek compensation from the ECF; the entities called upon to contribute to the ECF (contractors, sponsoring States, or other entities); the parameters of such contributions (a fixed yearly amount or a percentage of the payments to be made from exploitation activities); the optimum level of funds; the modalities for accessing the ECF; and matters pertaining to its administration.[7]

Against this background, this study provides a review of existing international compensation funds, with a focus on those whose objectives include compensation for environmental damage. Accordingly, the International Oil Pollution Compensation Funds (IOPC Funds), the Hazardous and Noxious Substances Fund (HNS Fund), UNCLOS on Supplementary Compensation for Nuclear Damage, the Basel Protocol on Liability and Compensation for Damage Resulting from Transboundary Movements of Hazardous Wastes and their Disposal and the United Nations Compensation Commission and Fund are analyzed. Funds at the national level in the context of land-based mining and offshore activities are also drawn upon.

Based on this review and an analysis of the legal framework applicable to liability for damages arising out of activities in the Area, some considerations are set out in order to assess whether and to what extent the above-mentioned funds can be relied upon as models in the establishment and operation of the proposed ECF.

The following aspects are addressed in relation to both the existing funds and the ECF: (a) compensable damage; (b) type of liability and exclusions; (c) eligible entities; (d) standard of proof required; (e) parameters for contribution; (f) contributing entities; (g) size of the fund; (h) amount of available compensation and compensation caps; (i) modalities of administration; (j) modalities of access; (k) insurance requirements; and (l) dispute settlement.

[6] Comments on the Draft Exploitation Regulations on the exploitation of mineral resources in the Area (ISBA/26/C/2), para. 24.
[7] Ibid.

II. APPLICABLE LEGAL FRAMEWORK: LIABILITY FOR DAMAGES ARISING OUT OF ACTIVITIES IN THE AREA

A. Relevant provisions of UNCLOS

The current legal regime applicable to liability and compensation for damages arising from activities in the Area is set out, primarily, in Part XI of UNCLOS and Annex III thereto, as well as in the Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area, the Regulations on Prospecting and Exploration for Polymetallic Sulphides in the Area, and the Regulations on Prospecting and Exploration for Cobalt-Rich Crusts, including the standard clauses for exploration contracts contained therein.

In particular, article 136 of UNCLOS states that *"[t]he Area and its resources are the common heritage of mankind"*. *Article 137 of UNCLOS further specifies that "[n]o State shall claim or exercise sovereignty or sovereign rights over any part of the Area or its resources" and that "all rights in the resources of the Area are vested in mankind as a whole, on whose behalf ISA shall act"*.

This links the status of the Area to the mandate of ISA as the organization through which States Parties shall organize and control activities in the Area, particularly with a view to administering its resources (article 157 of UNCLOS). In this context, ISA is called upon to adopt appropriate rules, regulations and procedures to ensure, *inter alia*, the effective protection of the marine environment from harmful effects that may arise from activities in the Area.

These activities are, according to article 1, paragraph 1(3), of UNCLOS, *"all activities of exploration for, and exploitation of, the resources of Area"*. Moreover, article 145 of UNCLOS lists a number of activities, the harmful effects of which, must be paid particular attention in the protection of the environment, namely "*drilling, dredging, excavation, disposal of waste, construction and operation or maintenance of installations, pipelines and other devices related to such activities*".

According to article 139 of UNCLOS, States Parties and international organizations are liable for damage caused by their failure to carry out their responsibilities under Part XI. According to its paragraph 2, however, "*[a] State Party shall not however be liable for damage caused by any failure to comply with Part XI by a person whom it has sponsored under article 153, paragraph 2(b), of UNCLOS if the State Party has taken all necessary and appropriate measures to secure effective compliance under article 153, paragraph 4, and Annex III, article 4, paragraph 4, of UNCLOS*".

Article 4, paragraph 4, of Annex III plays an important role in further specifying the legal framework for liability by stating that "*the sponsoring State or States shall, pursuant to article 139, have the responsibility to ensure, within their legal*

systems, that a contractor so sponsored shall carry out activities in the Area in conformity with the terms of its contract and its obligations under this Convention. A sponsoring State shall not, however, be liable for damage caused by any failure of a contractor sponsored by it to comply with its obligations if that State Party has adopted laws and regulations and taken administrative measures which are, within the framework of its legal system, reasonably appropriate for securing compliance by persons under its jurisdiction".

Finally, article 22 of Annex III addresses the responsibility and liability of the contractor and ISA. While the former is to be held liable "*for any damage arising out of wrongful acts in the conduct of its operations", the latter "shall have responsibility or liability for any damage arising out of wrongful acts in the exercise of its powers and functions*". In both cases, their respective contributory acts or omissions shall be taken into account. It cannot be underestimated that the said provision prescribes that "*liability in every case shall be for the actual amount of damage*", pointing out an important element in the assessment of the constitutive features of the envisaged ECF (see section VI.d, below).

The exploration regulations further specify that the contractor shall continue to have responsibility for any damage arising out of wrongful acts in the conduct of its operations, in particular damage to the marine environment, after the completion of the exploration phase.[8] The standard clauses for exploration contracts provide further elaboration by stating that "*the contractor shall be liable for the actual amount of any damage, including damage to the marine environment, arising out of its wrongful acts or omissions, and those of its employees, subcontractors, agents and all persons engaged in working or acting for them in the conduct of its operations under this contract, including the costs of reasonable measures to prevent or limit damage to the marine environment, account being taken of any contributory acts or omissions by the ISA*."[9]

In relation to damage to the marine environment, irrespective of the maritime zones in which such damage occurs, article 235 of UNCLOS, found in Part XII of UNCLOS on the protection and preservation of the marine environment, sets out the responsibility and liability of States related to the fulfilment of their international obligations concerning the protection and preservation of the marine environment. When it comes to the Area, that provision needs to be read together with the provisions related to the Area as outlined above, where liability does not only concern States (in particular, sponsoring States), but also contractors and the ISA.

Article 235 further addresses matters relating to compensation by requiring States, with the objective of assuring prompt and adequate compensation in respect of all damage caused by pollution of the marine environment, to cooperate in the implementation of existing international law and in the further development of international law relating to responsibility and liability for the assessment of and compensation for damage and the settlement of related disputes, as well as, where appropriate, in the development of criteria and procedures for the payment of adequate compensation, such as compulsory insurance or compensation funds.

[8] Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area, Regulation 30; Regulations on Prospecting and Exploration for Polymetallic Sulphides in the Area, Regulation 32; Regulations on Prospecting and Exploration for Cobalt-Rich Crusts, Regulation 32.

[9] Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area, Section 16; Regulations on Prospecting and Exploration for Polymetallic Sulphides in the Area, Section 16; Regulations on Prospecting and Exploration for Cobalt-Rich Crusts, Section 16.

B. The contribution of the Seabed Advisory Opinion by the SDC

There are three main areas of interest, for the purposes of the present study, in the advisory opinion delivered by the SDC:[10]

(i) a clarification of the scope of application of the legal regime relevant to the Area through the interpretation of the phrase "activities in the Area";
(ii) a detailed account of the legal regime concerning the liability of sponsoring States (including the qualification of their obligation as one of "due diligence");
(iii) the identification of possible gaps in the rules governing liability and compensation in the Area.

The present subsection will focus on issues (i) and (ii), whilst the overarching question (iii) of the existing liability gap will be dealt with in the next section.

With regard to the first issue, the SDC provided an authoritative interpretation of the phrase "activities in the Area", stating that such expression should not be read as referring exclusively to the activities mentioned in article 145 UNCLOS (listed above). Additional activities should be included, namely the recovery of minerals from the seabed and their lifting to the water surface (paragraph 94 of the Advisory Opinion), "*the evacuation of water from the minerals and the preliminary separation of minerals of no commercial interest, including their disposal at sea*" and the transportation within the part of the high seas superjacent to the part of the Area in which the contractor operates, when directly connected with extraction and lifting (paragraph 95-96). However, transportation to points on land from that part of the high seas is not included (paragraph 96).

In relation to the second issue, the advisory opinion offered a comprehensive analysis of the relevant legal regime, specifying the differences between the various rules applicable to all potentially involved subjects and their interrelations.

The most complex questions were raised with regard to the extent of the liability of the sponsoring State.

In this respect, the SDC recalled that, under UNCLOS, sponsoring States must put administrative measures and regulations in place in order to make sponsored contractors comply not only with UNCLOS and any related instrument, but also with the terms of the relevant contracts (paragraph 217). This is the main responsibility of sponsoring States which are, consequently, liable when two conditions are met: (i) a damage is produced and (ii) such damage can be causally linked to the failure of sponsoring States to "*carry out their responsibilities*" (paragraph 172).

While the first condition (and in particular the definition of "compensable damage"), will be dealt with below in section VI.a, at this stage of the study, it is worth focusing on the second of the said conditions.

The SDC, in this respect, stated that sponsoring States can be held liable only when the damage is a consequence of their failure to "*deploy adequate means,*

[10] This is bearing in mind the statement by the SDC that "Considering that the potential for damage, particularly to the marine environment, may increase during the exploitation phase, it is to be expected that member States of the ISA will further deal with the issue of liability in future regulations on exploitation. The SDC would like to emphasize that it does not consider itself to be called upon to lay down such future rules on liability. The member States of the ISA may, however, take some guidance from the interpretation in this Advisory Opinion …". Advisory opinion, 1 February 2011, *ITLOS Reports* 2011, para.168.

to exercise best possible efforts, to do the utmost, to obtain" the sponsored contractor's compliance with its obligations. In other words, the obligation of the sponsoring State is one of "due diligence" and not of result (paragraph 110).

Moreover, additional direct obligations are set upon the sponsoring State, including the duty to assist the ISA in controlling the activities in the Area (paragraph 124) and the need to apply a precautionary approach to ensure marine environmental protection (paragraph 127). As noted by the SDC, compliance with these obligations can also be seen as a relevant factor in meeting the due diligence "obligation to ensure" (paragraph 123).

The SDC also stressed the fact that the required standard of "due diligence" can never give rise to a joint liability between the sponsoring State and the sponsored contractor. In fact, the latter is subject to a different and parallel obligation, triggering its liability when it fails to comply with its own obligations and, thereby, cause damage. In this vein, it was made clear that the only possible connection between the two obligations (and, therefore, liabilities) occurs when "*the liability of the sponsoring State depends upon the damage resulting from activities or omissions of the sponsored contractor*" (paragraph 201). In no other case, according to article 4, paragraph 4, of Annex III, the sponsoring State can be held liable for damage arising out of activities of the sponsored contractor that failed to comply with UNCLOS or its contract with the ISA.

Light was also shed by the SDC on the issue of the standard of liability. Notwithstanding the principle of strict liability, i.e. liability without fault, of sponsoring States being invoked during the proceedings, the SDC, however, pointed out that liability for damage of the sponsoring State arises only from its failure to meet its obligation of due diligence and that this ruled out the application of strict liability (paragraph 189).

When addressing the question whether the sponsoring State would have an obligation to intervene, covering any residual part of the damage not compensated by the contractor, the SDC was faced with two alternatives, which were both discussed in the process leading to the advisory opinion. On one hand, some delegations proposed to acknowledge the existence of a joint and severe liability between the sponsoring State and the contractor for the liability that may originate from the activities carried out by the latter. On the other hand, another view identified the existence of a residual obligation upon the State so that the sponsor would come into play only when and as long as the contractor's economic capacity proved insufficient to cover the full amount of the damage caused.

Neither view, however, was embraced by the SDC, which clearly indicated that applicable international law rules did not allow for a broadening of the scope of the sponsoring State's liability beyond the limits of its "due diligence" obligation. It clarified, in fact, that the regime established by article 139 of UNCLOS and its related instruments leaves no room for the residual liability of the sponsoring State, whose obligations exist in parallel to those of the sponsored contractor.

III. RATIONALE FOR THE PROPOSED ENVIRONMENTAL COMPENSATION FUND

There are at least two components to the overall rationale of the proposed ECF for the Area, namely: (a) the existence of a liability gap identified by the SDC; and (b) the need to implement the polluter pays principle.

A. The existing gap

The SDC identified a gap in the legal framework governing liability and compensation for damage caused by activities carried out in the Area (paragraph 203). The gap arises from the following situations: (i) the contractor is liable and the sponsoring State is not and yet, the contractor is unable to meet its liability in full and (ii) the State has not met its obligation but that failure is not causally linked to the damage and the State is therefore not liable. Another situation is mentioned in paragraph 178 and relates to a case where (iii) the sponsoring State has failed to carry out its responsibilities but there has been no damage.

In the case of (iii) above, as pointed out by the SDC, "*the consequences of such wrongful act are determined by customary international law*" (reply to Question no. 2). Item (ii), i.e. the sponsoring State is not liable, requires some elaboration. In that scenario, if the contractor is liable, compensation will be provided by it. If the contractor is liable but unable to fulfil its obligation to compensate in full, the situation will be the same as the one considered under (i) and, as will be seen, compensation would need to be provided by the proposed ECF. However, a situation may arise where no liability exists: neither the sponsoring State nor the contractor is liable because the damage has resulted, most likely, from *force majeure* or a similar event or condition outside the control of the sponsoring State as well as of the contractor.

The most critical issue for the purpose of this study, as it emerges from the Advisory Opinion rendered by the SDC, is the one described under (i), namely situations where the sponsored contractor is held liable but is not in a position to meet its liability in full and the sponsoring State is not liable, leaving the damage only partially compensated for.

In the words of the SDC, "[*t*]*aking into account that ... situations may arise where a contractor does not meet its liability in full while the sponsoring State is not liable under article 139, paragraph 2, of UNCLOS, the ISA may wish to consider the establishment of a trust fund to compensate for the damage not covered*" (paragraph 205). Attention was drawn by the SDC, in this connection, to article 235, paragraph 3, of UNCLOS, referring to such possibility.

In light of the current text of the Draft Exploitation Regulations a question may arise as to whether the obligations set out in the Draft Exploitation Regulations on contractors to lodge an environmental performance guarantee (EPG) in favor of

ISA, on one hand, and to obtain and maintain at all times insurance with financially sound insurers, on the other hand, may overlap with or be duplicative of the proposed ECF.

An EPG is, in principle, intended to perform a different function than the proposed ECF. The current wording of the Draft Exploitation Regulations makes it clear that the EPG would cover the costs associated with the closure of exploitation, namely premature closure, decommissioning and final closure of exploitation, including the removal of any installations and equipment, and post-closure monitoring and management of residual environmental effects. The EPG's scope is therefore restricted to the cessation of the mining activity and is not an instrument related to liability for environmental damage arising from a wrongful act. The main purpose of the ECF, on the other hand, is to cover the cost of any necessary measures to prevent, limit or remediate any damage arising from wrongful acts, the costs of which cannot be recovered from a liable contractor or sponsoring State. The only area of potential overlapping between the two instruments may lie in the proposal for the EPG to also be used for the purpose of "*responding to, and remediating, a significant environmental incident*" if it is *understood that such incident has caused damage*.[11] However, such overlap could be avoided by coordinating the scope of applications of the two instruments so as to ensure that an event is not covered twice by different instruments.

With regard to the obligation to take insurance coverage, as provided for in the Draft Exploitation Regulations, this has to be seen as a safeguard which is complementary (rather than alternative) to the proposed ECF. Whilst the contractor's insurer is expected, as a matter of principle, to take on the burden of any liability incurred by its insured up to the maximum limit as per the insurance policy, one cannot exclude the possibility of the contractor or its insurer being unable, for whatever reason, to abide by their respective obligations, thus triggering the possibility to have recourse to the ECF. Another situation that could arise consists in the impossibility to recover from the insurer above and beyond a certain amount, due to the existence of a cap on the insurer's liability itself. As noted below (see section IV.K), existing funds also have insurance requirements in place and only intervene as second or third-tiers of liability, where insurance will not cover the full amount of the damage.

The relationship between the ECF, the EPG and the mandatory insurance requirement is therefore such that the ECF will only be utilised where the total costs to compensate for damage in the Area cannot be recovered from the contractor or the insurer. This framework reinforces the residual nature of the ECF which is fundamental to the consideration of a number of aspects pertaining to the ECF, including eligible entities and quantification of contributions (see Section VI).

B. 'The Polluter Pays' principle

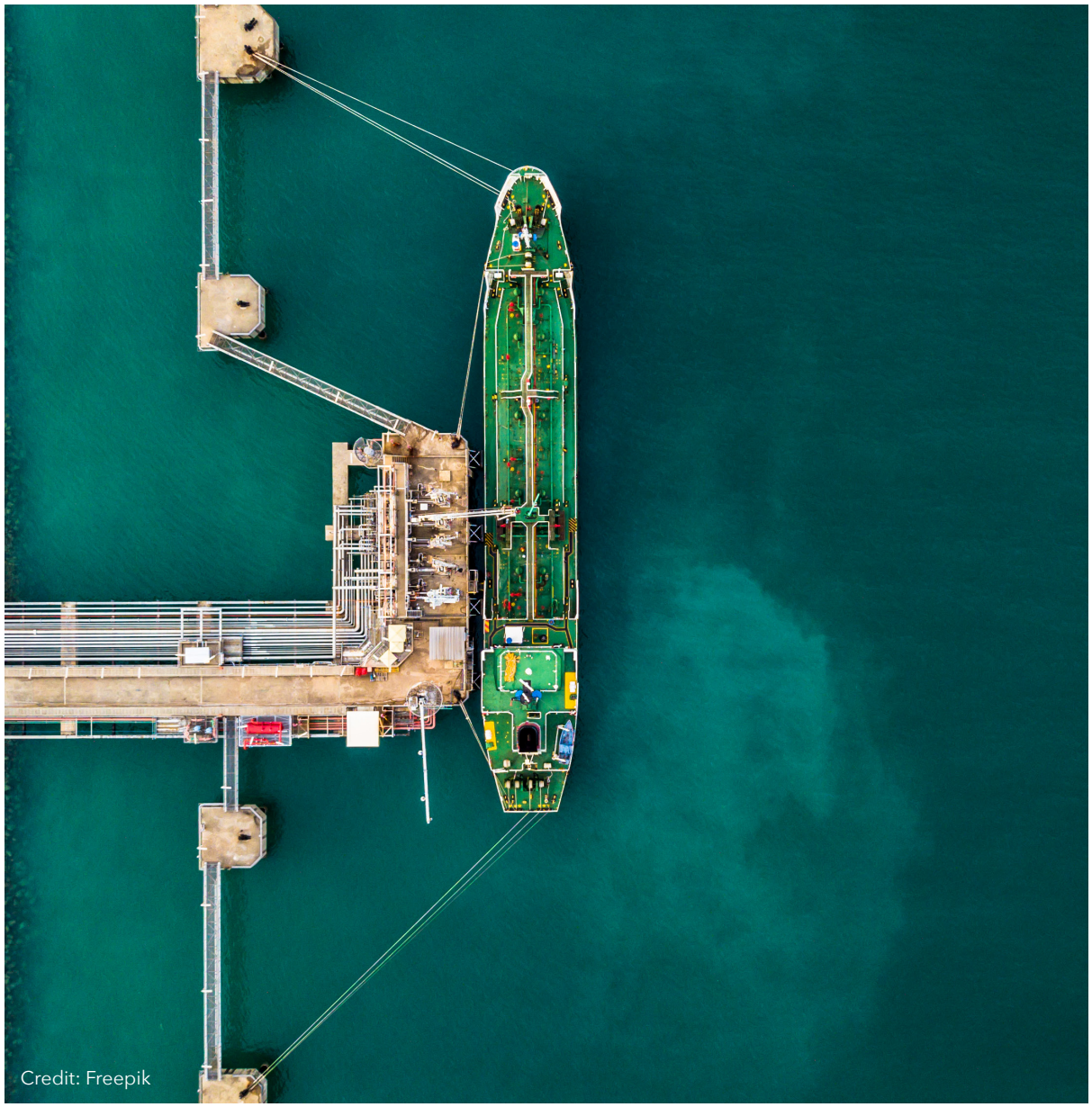
Whilst it is beyond the scope of the present study to elaborate on the status of the polluter pays principle in international law (in particular, whether or not it has become part of customary international law), its content is relevant to the proposed ECF. The principle is that any cost caused by pollution should be borne by the person responsible for causing the pollution itself. Reference in this respect is usually made to Principle 16 of the Rio Declaration on Environment and Development according

[11] See "Draft Exploitation Regulations on exploitation of mineral resources in the Area - Collation of specific drafting suggestions by members of the Council" ISBA/26/C/CRP.1.

to which "*national authorities should endeavor to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution with due regard to the public interest and without distorting international trade and investment*".

Indeed, the polluter pays principle is mentioned in the Draft Exploitation Regulations as one of the fundamental principles for the effective protection of the marine environment.

The combination of the above-mentioned gap and the concept of internalization of environmental costs is an important rationale for the establishment of a mechanism by which damages to the marine environment are fully compensated, including through upfront contributions by contractors.



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IV. ENVIRONMENTAL COMPENSATION FUNDS: EXISTING MODELS

An important background element to the present study is constituted by a number of compensation funds, established by international agreements or otherwise, applicable to specific fields or situations. As shown below, a range of approaches to compensation have been adopted. The use of pooled funds, established through a specific treaty, to secure liability amounts that exceed baseline insurance requirements arose under the oil pollution regime in recognition of the inadequacy of insurance coverage after several significant pollution incidents. In addition to extending the available coverage, such mechanism redistributes the risk burden. Another mechanism, used in relation to nuclear installations, provides for State-financed coverage for claims in excess of the operator's insured liability limits without the establishment of an institutional fund. Yet another model lies in the establishment of trust funds or other funds of an administrative nature through a decision of a governing body under an existing international instrument.[12]

Before engaging in a thematic review of the mechanisms reviewed for this study, some general information concerning each mechanism is provided. The funds that are considered in the present study have been chosen for a number of reasons including, first and foremost, the coverage of the type of damage that is intended to be compensated by the proposed ECF.

In the maritime field, the first and most prominent example is the ***International Oil Pollution Compensation (IOPC) Funds*** set up in 1971 and 1992, to complement the legal regimes incorporated, respectively, in the International Conventions on Civil Liability for Oil Pollution Damage (CLC) of 1969 and 1992.

The 1969 CLC was adopted in the wake of the *Torrey Canyon* disaster for the purpose of introducing a system of uniformed rules on liability and compensation for damages caused by oil spills. It provided for strict (though not absolute) liability of the shipowner (so-called "channeling"), a liability cap calculated on the basis of the ship's tonnage, a compulsory insurance system and a definition of "pollution damage" recoverable under UNCLOS. The 1992 CLC, in turn, raised the maximum liability limit available under the 1969 rules and provided for a series of amendments to the definition of "pollution damage" and to the rules excluding the liability of subjects other than the shipowner.

After the entry into force of the 1992 CLC, the 1969 CLC was denounced by a large number of States and has nowadays a limited scope of application. As far as the two Funds are concerned, they coexisted until 2014, when member States to the 1971 Fund voted to wind it up so that only the 1992 Fund continued to be in existence.

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[12] For a succinct analysis see Neil Craik, *Deep Seabed Mining Liability: Potential Legal Pathways*, Briefing Paper 01/2018, pp. 3-4.

A ***Supplementary Fund to the 1992 IOPC Fund*** was established by a Protocol adopted in 2003 and entered into force in 2005 for the purpose of creating a third tier of liability and compensation, additional to the shipowner's and the 1992 Fund's, thus further increasing the maximum amount recoverable by victims of oil spills. Participation in the Supplementary Fund is optional and open to any State which is a party to the 1992 Fund.

The 1996 Hazardous and Noxious Substances (HNS) Convention (updated in 2010) established the ***HNS Fund***, which is largely (although not totally) modelled on the 1992 Fund, to compensate for damage and losses resulting from the maritime transport of hazardous and noxious substances. It has, however, so far failed to attract the minimum number of ratifications required for its entry into force.

A different approach is embodied in the international legal regime covering liability for damage caused in connection with nuclear incidents, which includes the 1963 Vienna Convention on Civil Liability for Nuclear Damage and the 1960 Paris Convention on Third Party Liability in the Field of Nuclear Energy, as respectively amended. The ***1997 Convention on Supplementary Compensation (CSC)*** is open to contracting parties to both Conventions and aims at establishing a minimum compensation amount available nationally and at further increasing the amount of compensation through public funds to be made internationally available by contracting States when the national amount is insufficient to compensate the damage caused by a nuclear incident.

The United Nations Compensation Commission (UNCC) created in 1991 as a subsidiary organ of the United Nations Security Council with a mandate to process claims and pay compensation for losses and damages suffered as a direct result of Iraq's unlawful invasion and occupation of Kuwait. Within this context, the United Nations Compensation Fund (***UNC Fund***) was created pursuant to the jSecurity Council resolution 692 (1991) in order to pay compensation to successful claimants. While based on different premises than the other funds reviewed, the administration of the Fund provides interesting insights.

In the context of the ***1992 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal and its 1999 Protocol on Liability and Compensation for Damage Resulting from Transboundary Movements of Hazardous Wastes and Their Disposal***, where compensation under the Protocol does not cover the cost of damage resulting from incidents arising out of transboundary movements and disposal of hazardous and other wastes, "*additional and supplementary measures aimed at ensuring adequate and prompt compensation may be taken using existing mechanisms*" (article 15, paragraphs 1 and 2, of the Protocol). As a result, by its decisions V/32, the Conference of the Parties to the Basel Convention decided to enlarge the scope of the ***Technical Cooperation Trust Fund*** (originally intended to assist developing countries and other countries in need of technical assistance in the implementation of the Basel Convention) in order to provide compensation for damage resulting from incidents arising out of transboundary movements and disposal of hazardous and other wastes upon entry into force of the Protocol. Interim Guidelines adopted by the Conference of the Parties provide guidance for the implementation of Decision V/32.[13]

With regard to ***national funds***, two categories of funds are noticeable. The first category, specifically related to seabed

[13] Decisions VI/14 and XII/11 of the Conference of the Parties to the Basel Convention.

mining, includes those instruments created by States that are sponsoring contractors which are carrying out exploration in the Area. Reference is made, in particular, to the systems in existence in Kiribati, Nauru and Tonga, which confer on their respective governments the power to obtain from contractors the deposit of a security, aimed at guaranteeing restoration from potential damage. Such sums can be destined to the relief of any damage caused by the contractor in the performance of its activities. Nonetheless, these funds are more akin to deposit guarantees than to compensation funds.

The second category includes funds established either in the context of land-based mining or in relation to oil spill from offshore oil and gas (see Annex II). The purposes and characteristics of those funds vary widely, some of them functioning as compensation funds and yet others have a benefit-sharing purpose and are aimed at sharing the benefits of mining operations with communities that suffer the impact of the said activities.[14]

A. Compensable damage

The three international maritime-related instruments (UNCLOS establishing the 1992 Fund and the Protocol on the Supplementary Fund, on one hand, and the 2010 HNS Convention, on the other hand) adopt similar, but not identical, criteria when it comes to the definition of compensable damage.

Three requisites for the compensation of damage as they emerge from such instruments are considered here: (a) the physical processes by which the damage is caused, (b) the nature of the damage and (c) its location in terms of affected maritime zones.

Processes by which damage is caused. Whilst only "pollution damage" is compensable under the 1992 Fund (article I, paragraph 2) and the Supplementary Fund (article 1, paragraph 6), the HNS Convention refers more generally to "damage" (article 1, paragraph 6), thus including any prejudice caused by phenomena other than contamination such as fire and explosion.

Nature of the damage. The range of the damage covered by the 1992 Fund and the Supplementary Fund includes (according to the relevant treaty provisions, the existing case law and the Claims Manual produced and regularly updated by the Secretariat of the Funds[15]): clean-up and preventive measures; property damage; consequential loss; pure economic loss (under certain circumstances); and environmental damage.[16]

As a general rule, which is also confirmed by the guidelines contained in the IOPC

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[14] For a detailed analysis see Wall E., Pelon R., *Sharing mining benefits in developing Countries. The experience with Foundations, Trusts and Funds, in Extractive industries for development series*, World Bank, n. 21, June 2011.
[15] IOPC Funds, "Claims Manual", 2019, available at https://iopcfunds.org/wp-content/uploads/2018/12/2019-Claims-Manual_e-1.pdf.
[16] Under the 1969 CLC and 1971 Fund Convention, judicial proceedings initiated by the Italian Government as a consequence of the Patmos accident highlighted the difficulties that may arise in reconciling the uniform rules embodied in the relevant treaty norms with possibly conflicting provisions of domestic law. Their outcome, in addition, prompted the contracting parties to the two Conventions to begin negotiations with a view to amending the definition of "pollution damage" so as to include in such definition the concept that *"compensation for impairment of the environment other than loss of profit … shall be limited to costs of reasonable measures of reinstatement actually undertaken or to be undertaken".* Interpreting the definition of "pollution damage" which was then in force in light of Italian law, the Court of Appeals of Messina declared on 22 May 1989 that the owner of the ship, its insurer and the 1971 Fund were liable for environmental damage including "*everything which alters, causes deterioration in or destroys the environment in whole or in part*" thus significantly and to some extent unexpectedly enlarging the exposure of the liable subjects.

Funds' Claim Manual, damage will only be compensated by the two Funds if: (i) it has actually been incurred; (ii) it satisfies criteria of reasonableness and justifiability; and (iii) it is causally linked to the spill. The criterion of reasonableness, in particular, is expressly mentioned in article I, paragraph 6, letter (a), in connection with "measures of reinstatement" but is in fact applied in more general terms. For example, always according to the Claims Manual:

- *"Claims for the costs of measures to prevent or minimise pollution damage are assessed on the basis of objective criteria. The fact that a government or other public body decides to take certain measures does not in itself mean that the measures are reasonable for the purpose of compensation under the Conventions. The technical reasonableness is assessed on the basis of the facts available at the time of the decision to take the measures. However, those in charge of the operations should continually reappraise their decisions in the light of developments and technical advice" (paragraph 3.1.5);*
- *"Claims for the cost of measures to remove any remaining persistent oil from a sunken ship are also subject to the overall criterion of reasonableness from an objective point of view, which applies equally to all preventive measures" (paragraph 3.1.8);*
- *"The criterion of reasonableness is assessed in the light of the particular circumstances of the case, taking into account the interests involved and the facts known at the time the measures were taken. When claims for the cost of an organisation's marketing activities are considered, account is taken of the claimant's attitude towards the media after the incident and, in particular, whether that attitude increased the negative effects of the pollution" (paragraph 3.5.3).*

With particular regard to damage to the marine environment, additional points must be made.

The Claims Manual specifies that:

> *"[c]ompensation is payable for the costs of reasonable reinstatement measures aimed at accelerating natural recovery of environmental damage. Contributions may be made to the costs of post-spill studies provided that they relate to damage which falls within the definition of pollution damage under UNCLOS, including studies to establish the nature and extent of environmental damage caused by an oil spill and to determine whether or not reinstatement measures are necessary and feasible" (paragraph 1.14.12). In addition, "[c]ompensation is not paid in respect of claims for environmental damage based on an abstract quantification calculated in accordance with theoretical models. Nor is compensation paid for damages of a punitive nature on the basis of the degree of fault of the wrong-doer" (paragraph 1.14.13).*

Damage to the marine environment is, undoubtedly, the most complex heading of damage to deal with. It is therefore not surprising that the IOPC Funds have published specific guidelines focusing on it.[17] Such guidelines identify and explain the current practice of the Funds, also taking into account the case law that has developed on the subject.

The Guidelines which, in turn, refer to and elaborate upon the Claims Manual, clarify that the 1992 Conventions do not provide compensation for what is referred to as "pure" environmental damage, that is compensation for the loss of environmental services.

[17] IOPC Funds, "Guidelines for presenting claims for environmental damage", 2018, available at https://iopcfunds.org/wp-content/uploads/2018/12/IOPC_Environmental_Guidelines_ENGLISH_2018_WEB_01.pdf.

The Guidelines also identify a number of admissibility criteria, additional to those that have already been mentioned, and that are typical to specific categories of measures related to damage to the marine environment, such as costs incurred for post-incident studies or for marine environmental reinstatement. In the former case, it is made clear, for example, that costs, in order to be recoverable, will have to be reasonable and directed at determining the nature, extent and duration or threat of environmental damage and at monitoring the recovery of the damaged environment (paragraph 4.3).

In the latter case related to marine environmental reinstatement, measures should be aimed, *inter alia*, at reestablishing the biological community in which the organisms that are characteristic of that community at the time of the incident are normally present and functioning. Measures should have a realistic prospect of significantly accelerating the natural process of recovery and should be based on sound scientific principles. The fact that measures may be taken at some distance from the location of the damaged area may still be compensated if it is demonstrated that they would actually enhance the recovery of the damaged components of the environment (paragraph 4.3).

By way of an example, in the context of criminal proceedings that were pending in Spain as a consequence of the *Prestige* accident, the Spanish Supreme Court, partially accepting the Fund's appeal against a lower court's decision, confirmed, by a ruling delivered in December 2019, the Fund's position that moral and "pure" environmental damages are not recoverable from the 1992 Fund. The lower court in La Coruña had awarded € 1.6 billion in compensation, including pure environmental and moral damages.[18]

It can be assumed that, if and when the HNS Convention enters into force, the HNS Fund may operate alongside the same lines, noting, however, that "loss of life and personal injury" are also expressly mentioned by the HNS Convention.

Outside the sphere of the maritime conventions, the definition of "nuclear damage" according to the CSC includes: loss of life or personal injury and loss of or damage to property as well as, to the extent determined by the law of the competent court, economic loss arising therefrom; costs of measures of reinstatement of impaired environment; loss of income deriving from an economic interest in any use or enjoyment of the environment; costs of preventive measures, and further loss or damage caused by such measures and any other economic loss, if permitted by the general law on civil liability of the competent court (article I, letter F). "Measures of reinstatement" means any reasonable measures which have been approved by the competent authorities of the State where the measures were taken, and which aim to reinstate or restore damaged or destroyed components of the environment, or to introduce, where reasonable, the equivalent of these components into the environment. "Preventive measures" means any reasonable measures taken by any person after a nuclear incident has occurred to prevent or minimize damage, subject to any approval of the competent authorities

[18] Also worth noting, in a judgement delivered in 2010 by the Court of Appeals of Paris in the context of the legal proceedings instituted in the aftermath of the *Erika* incident it was decided that compensation for pure environmental damage (i.e. damage to non-marketable environmental resources representing a legitimate collective interest) should be granted under French law as it was sufficient for recoverability purposes that the pollution touched the territory of a local authority for it to be able to claim for the direct and indirect damage caused by the pollution. Such a decision was upheld by the French Court of Cassation in 2012, causing the Director of the 1992 Fund to state at the following meeting of the Fund's Executive Committee that the judgement was not binding on the Fund since it was not a party to such proceedings.

required by the law of the State where the measures were taken. "Reasonable measures" means measures which are found under the law of the competent court to be appropriate and proportionate, having regard to all the circumstances, for example:

(i) the nature and extent of the damage incurred or, in the case of preventive measures, the nature and extent of the risk of such damage;

(ii) the extent to which, at the time they are taken, such measures are likely to be effective; and

(iii) relevant scientific and technical expertise.

In the different scenarios of the UNCF, reference must be made to paragraph 35 of Governing Council Decision 7 of the UN Compensation Commission, defining "*direct environmental damage and depletion of natural resources*" as including losses or expenses resulting from: abatement and prevention of environmental damage; reasonable measures already taken to clean and restore the environment or future measures reasonably necessary to clean and restore the environment; reasonable monitoring and assessment of the environmental damage; reasonable monitoring of public health and performing medical screenings and depletion of or damage to natural resources.

With regard to the Technical Cooperation Trust Fund under the Basel Convention and its 1999 Liability Protocol, the Interim Guidelines specify that recoverable damage in relation to the environment can include: the costs of measures of reinstatement of the impaired environment, limited to the costs of measures actually taken or to be undertaken; the costs of preventive measures, including any loss or damage caused by such measures, as far as they aim at preventing damage to the environment or reinstating the environment. "Preventive measures" are any reasonable measures taken by any person in response to an incident, to prevent, minimize or mitigate damage to and the necessity of reinstatement of the environment, or to effect environmental clean-up. "Measures of reinstatement" means any reasonable measures aiming to assess, reinstate or restore damaged or destroyed components of the environment. To be admissible for consideration, the measures should fulfil the following criteria: the cost of the measures should be reasonable; the cost of the measures should not be disproportionate to the results achieved or the results which could reasonably be expected; and the measures should be appropriate and offer a reasonable prospect of success.

Location of the damage. Concerning the location of the damage, the 1992 Fund (article 3) and the Supplementary Fund (article 3) are called upon for the compensation of damage suffered in the territory, the territorial sea and the exclusive economic zone (EEZ) of a contracting State or, in case an EEZ has not been declared, in an area extending no more than 200 nautical miles calculated from the baselines from which the breadth of the territorial sea is measured.

The HNS Convention and Fund cover any damage caused in the territory or territorial sea of a State party (article 3). They also cover damage by contamination of the environment caused in the EEZ, or equivalent area, of a State Party, and damage (other than by contamination of the environment) caused by HNS carried on board ships registered in, or entitled to fly, the flag of a State Party outside the territory or territorial sea of any State.

The funds provided for under the CSC apply to nuclear damage which is suffered in the territory of a Contracting Party or above maritime areas beyond the territorial sea of a Contracting Party on board or by a ship flying the flag of a Contracting Party, or

on board or by an aircraft registered in the territory of a Contracting Party, or on or by an artificial island, installation or structure under the jurisdiction of a Contracting Party; or by a national of a Contracting Party, excluding damage suffered in or above the territorial sea of a State not Party to the CSC. They also apply to damage suffered in or above the EEZ of a Contracting Party or on the continental shelf of a Contracting Party in connection with the exploitation or the exploration of the natural resources of that EEZ or continental shelf.

With regard to the Technical Cooperation Trust Fund under the Basel Convention, the Interim Guidelines apply to damage to and reinstatement of the environment which occurred in an area under the national jurisdiction of a Contracting Party to the Protocol, which is a developing country or a country with economy in transition. In addition, as far as compensation for the costs of preventive measures is concerned, such compensation may also be provided for damage suffered in areas beyond any national jurisdiction.

B. Type of liability and exclusions

The 1992 Fund and the HNS Fund are intended to top up the liability of the shipowner. These Funds kick in, therefore, when one of the following circumstances arise: (a) the shipowner is not liable for the damage according to the 1992 CLC or the HNS Convention, respectively; (b) the liable shipowner is unable to meet its compensation obligations in full and no sufficient financial security is available; (c) the damage exceeds the shipowner's liability calculated in accordance with the 1992 CLC or the HNS Convention, respectively.

Some exclusions do apply, though, as the two Funds will not be paying compensation when: (a) the damage results from an act of war, hostilities, civil war or insurrection or was caused by hazardous and noxious substances which have escaped or been discharged from a warship or other ship owned or operated by a State and used, at the time of the incident, only on government non-commercial service; or (b) it cannot be proven that the damage resulted from an incident involving one or more ships.[19]

In the case of the Supplementary Fund, the obligation to pay compensation is triggered when a person suffering pollution damage has been unable to obtain full and adequate compensation for an established claim for such damage from the 1992 Fund because the total damage exceeds (or there is a risk that it will exceed) the applicable limit of compensation (article 4, paragraph 1).

In the case of the CSC, contracting States are required to "*make available public funds*" that will have to operate as an international second tier of compensation and will only be available if the national compensation amount[20] is inadequate to ensure the payment of all claims for compensation for nuclear damage.

As far as the Technical Cooperation Trust Fund of the 1992 Basel Convention is concerned, under Article 4 of the Protocol on Liability and Compensation, the notifier (exporter or importer) or disposer has strict liability for damage due to an incident occurring during a transboundary movement of hazardous wastes and their disposal, including illegal traffic. Its use to provide compensation for damage and reinstatement of the environment is up to

[19] Article 4, paragraph 2, of UNCLOS establishing the 1992 Fund; Article 14, paragraph 3, of the HNS Convention.
[20] Article III.1(b) of the CSC foresees that the Installation State shall ensure the availability of 300 million Special Drawing Rights or a greater amount that it may have specified to the Depositary at any time prior to the nuclear incident, or a transitional amount of at least 150 million Special Drawing Rights in respect of a nuclear incident occurring within a period of up to 10 years from the date of the opening for signature of the CSC.

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the limits provided for in the 1999 Liability Protocol. However, there is no financial limit where damage was caused or contributed by the liable person's lack of compliance with the provisions implementing UNCLOS or by its wrongful intentional, reckless or negligent acts or omissions.

C. Eligible entities

With regard to the identification of the subjects that are allowed to claim compensation from the funds, the 1992 Fund and the Supplementary Fund identify the eligible entities in any person suffering pollution damage whereby they have been unable to obtain full and adequate compensation under the 1992 CLC, which sets upon the owner of the tanker which has caused the damage the first tier of liability and, therefore, the first subject obliged to pay compensation.

According to the 1992 CLC, to which both the 1992 Fund and the Supplementary Fund refer, person means "*any individual or partnership or any public or private body, whether corporate or not, including a State or any of its constituent subdivisions*" (article I, paragraph 4, 1992 CLC).

An identical list of eligible entities to claim compensation is provided with reference to the HNS Fund.

A different approach is taken by the CSC in the case of nuclear damage which refers generally to the concept of "*persons suffering damage*" (article X, paragraph 2) without offering a more precise definition thereof.

The UNC Fund includes within the list of entities eligible for compensation, individuals, States and international organizations. Each category can claim compensation for different headings of

damage and up to different amounts. States and international organizations are allowed to claim compensation also for damage to the environment as indicated above in section IV.a.

In the case of the Technical Cooperation Trust Fund, the eligible entities are any "*person who suffered the damage*" according to the 1999 Liability Protocol. However, compensation can only be provided upon request of a Contracting Party to the Protocol, which is a developing country or a country with economy in transition (see Section H below).

D. Amount of compensation and compensation caps

Some indications concerning the calculation of the amount of compensation available under the different regimes considered for the purpose of the present study are embodied in the relevant definition of "damage", "pollution damage" or "environmental damage". Speaking in general terms, as for any compensation mechanism, the purpose of such funds is to ensure that the person or entity which has suffered some form of recoverable damage is put in the position they would have been in, had such damage not occured. When it comes to damage to the environment, in the case of the 1992 Fund, the Supplementary Fund and the HNS Fund, the amount of compensation available is represented by the costs of reasonable measures for prevention and clean-up and for reinstatement undertaken or to be undertaken.

Four out of six of the funds also provide for some form of cap to the compensation available from the fund, although this is done in different ways.

The maximum amount payable by the 1992 Fund in respect of an incident occurring before 1 November 2003 was of SDR 135 million (USD 186 million), including the sum actually paid by the shipowner or its insurer under the 1992 CLC. The limit was increased to SDR 203 million (USD 280 million) on 1 November 2003, with the new limit applying only to incidents occurring on or after that date. The limit was upgraded as an acknowledgment of the fact that the size of an oil spill might be such as to cause greater damage than it was possible to accommodate under the original limits.

Under the Supplementary Protocol, the total amount available for compensation for each incident for pollution damage in a member State is of SDR 750 million (USD 1035 million), including the amounts payable under the 1992 CLC and the 1992 Fund.

The maximum amount payable by the HNS Fund in respect of any single incident is 250 million SDR (USD 345 million), including the sum paid by the shipowner or its insurer (article 14, paragraph 5, letter a). A simplified procedure to increase the maximum amount of compensation payable in the future is also provided.

As far as liability and compensation for nuclear damage is concerned, a maximum cap to the amount of compensation is established at *circa* USD 409 million per accident, excluding the supplementary compensation recoverable under the CSC.

In the case of the Technical Cooperation Trust Fund under the Basel Convention, the aggregate amount payable for damage to and reinstatement of the environment in respect of any one incident is up to the limits provided for in the Protocol, where such compensation and reinstatement is not adequate under the Protocol. The attribution of payments from the Technical Cooperation Trust Fund is discretionary and subject to the availability of resources and is made by the Executive Secretary in consultation with the Bureau. If the total amount of requests exceeds the total amount of compensation available in the

Fund, the Executive Secretary shall decide on which requests should given priority based on criteria and the Interim Guidelines and inform the Bureau that the resources available in the Fund are exceeded by demand. In such a case, the compensation provided to each requesting person may be reduced proportionately or as deemed necessary. If there is a risk that such situation may arise in the future, the Executive Secretary may have to restrict payments to a fixed percentage, in order to ensure that all applicants considered are given equal treatment. Without approval of the Bureau, with respect to each incident, the Executive Secretary should not use more than 30 per cent of the amount of funds not earmarked for specific activities available in the Fund at any given time, and the minimum reserve of 10 per cent should never be used except with express approval of the Bureau. These limits do not apply to earmarked contributions. The amount of compensation can be reduced or no compensation at all provided if the damage to the environment resulted wholly or partially either from the wrongful intentional conduct or negligence of the person who suffered the damage or a person for whom it is responsible under domestic law.

In the case of the UNC Fund, no limit is set, in all likelihood as a result of the particular context represented by a mechanism grounded in a breach of international law by a member State of the United Nations to the detriment of another United Nations member State. The existence of a system of prioritization of claims (based on the seriousness of the loss and on the urgency of the compensation) and of payment in instalments has rendered the flow of compensation compatible with the proceeds provided by the Iraqi Government.

E. Contributing entities

The 1992 Fund is annually alimented by any person (in respect of each contracting State) who has received, in the territory of such State after carriage by sea, more than 150,000 tons of "contributing oil". This rule applies regardless of the nature of the recipient (public entity, State-owned company, private company).

The same entities are called upon to contribute to the Supplementary Fund. However, article 14 of the Protocol establishing the Supplementary Fund provides that, for the purpose of the Protocol, a minimum of 1 million tons of contributing oil is to be deemed per contracting State and, additionally, that, in case the aggregate amount of contributing oil is lower than that:

> *"the State shall assume the obligations that would be incumbent under [the] Protocol on any person who would be liable to contribute to the Supplementary Fund in respect of oil received within the territory of that State in so far as no liable person exists for the aggregated quantity of oil received".*

When referring to the HNS Fund, its structure is made of a general account and three separate accounts, one for oil, one for liquefied natural gases (LNG) and one for liquified petroleum gases (LPG). Accordingly, contributions to the general account are charged to any person, in each State Party, that has been the receiver of aggregate quantities of contributing cargo exceeding 20,000 tons, while contributions to the separate accounts are on receivers of each of the different substances listed above (the triggering quantities being set out in article 19).

In the context of the nuclear domain, the contributions are public funds made available by contracting States.

With regard to the UNCC, a number of resolutions by the Security Council

have confirmed that the Government of Iraq was the entity called upon to make funds available to claimants who seek compensation for losses and damages suffered as a consequence of Iraq's international responsibility for having unlawfully invaded and occupied Kuwait.

F. Parameters for contributions

The 1992 Fund, the Supplementary Fund and the HNS Fund are characterized by the fact that contributions depend on the quantities of the substance, relevant for each of the said funds, received by any given operator in a contracting State.

"Contributing oil" is, for example, the parameter used as far as the 1992 Fund and the Supplementary Fund are concerned. Such expression means, as indicated in article 1, paragraph 3, of the 1992 Fund Convention, "*crude oil and fuel oil*" and the triggering quantity is of 150,000 tons received in total by any person in respect of each contracting State. The same definition applies to the Supplementary Fund, which differs in the amount of oil received, amounting to 1 million tons.

The same approach was chosen with regard to the HNS Fund. On one hand, with reference to the general account, what is taken into consideration, is the amount of "contributing cargo", meaning "*any bulk HNS which is carried by sea as cargo to a port or terminal in the territory of a State Party and discharged in that State*" (article 1, paragraph 10). On the other hand, each separate account is funded in accordance to the quantity of the relevant substance received in each contracting State.

A different system applies when it comes to the quantification of public funds that contracting States need to make available to compensate nuclear damage whenever national funds also provided by the CSC are insufficient for that purpose. The funds are calculated according to a formula provided by the CSC (article IV) which is based upon the installed nuclear capacity and the United Nations rates of assessment of contracting States. As explained above, the second tier of compensation will only be available if the national compensation amount is inadequate to ensure the payment of all claims for compensation for nuclear damage. The total available amount will depend on the number of the contracting States to the CLC at the


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relevant time and, in particular, on the number of contracting States with nuclear reactors.

Within the UNCC framework, the UNC Fund receives a percentage of the proceeds generated by the export sales of Iraqi petroleum and petroleum products. This percentage was set at 30% by Security Council resolution 705 (1991) and was maintained at the same level by a number of subsequent resolutions before being lowered to 25% by Security Council resolution 1330 (2000) taking into account, on one hand, the resources needed for the payment of compensation and, on the other hand, the needs of the Iraqi population also in the light of the humanitarian situation in the country. The proportion of the proceeds was changed to 5% by Security Council resolution 1483 (2003).

G. Size of the funds

None of the funds reviewed for the preparation of this study have a standard size, meaning a maximum amount beyond which no further contributions are required, or a minimum amount.

As noted above, the IOPC Funds and the HNS Fund link contributions from contributing entities to the quantities of relevant substance received in each State on a yearly basis. This, as a consequence, makes the size of such funds variable, depending on the said quantities.

Nonetheless, it is worth mentioning the mechanism where, alongside the contribution due every year, contributors are required to pay additional monies in case a major accident occurs. Since the amount of contributions is levied by the Assembly so as to take into account (a) the tonnage of oil received within each contracting State the preceding calendar year and (b) the payment of compensation for succeeding claims in the previous year, the size of the IOPC Funds will vary accordingly by requiring contributors to pay higher contributions when needed. Such mechanism allows for the Funds to never fall short of funds even when the number or magnitude of accidents occurred is higher than the actual financial capacity of the Funds.

H. Modalities of access to the funds

The IOPC Funds have adopted and regularly updated a Claims Manual which contains a wealth of information on how claims should be presented to the Funds.

Claims may be filed in writing, a standard form being available on the website of the IOPC Funds. The Claims Manual further identifies the documents that should be submitted alongside the claim (such as invoices, work sheets, explanatory notes, accounts and photographs) and highlights the importance of a close co-operation with the shipowner's insurer, which will usually be one of the Protection & Indemnity Clubs (P&I Club). In case of a significantly sized accident, potentially giving rise to a large number of claims, the 1992 Fund and the P&I Club concerned are likely to set up a joint local claims office to facilitate the processing of claims.

In terms of access, a crucial element to be taken into account relates to the time bar. According to article 6 of UNCLOS establishing the 1992 Fund, rights to compensation shall be extinguished unless an action is brought thereunder or a notification has been made to the Fund within three years from the date when the damage occurred. In addition, no action can be brought after six years from the date of the incident which caused the damage.

Under article 6 of the Protocol establishing the Supplementary Fund, rights to compensation are extinguished only if they are extinguished against the 1992 Fund.

In addition, claims made against the 1992 Fund are regarded as made by the same claimant against the Supplementary Fund.

If and when the HNS Convention enters into force, the HNS Fund may operate under similar modalities of access, bearing in mind however that the time limit for bringing an action is extended up to ten years (article 37, paragraph 3).

Access to the international fund envisaged by the CSC is regulated by article VII of UNCLOS which provides that, following the notification of a nuclear damage, the contracting State whose courts have jurisdiction shall request the other contracting States to make available the public funds required and shall have exclusive competence to disburse such funds. Every contracting State shall ensure that persons suffering damage may enforce their right to compensation without having to bring separate proceedings according to the origin of the funds provided for such compensation. With regard to time bar, rights of compensation are extinguished if an action is not brought within ten years from the date of the nuclear incident. If, however, under the law of the Installation State the liability of the operator is covered by insurance or other financial security or by State funds for a period longer than ten years, the law of the competent court may provide that rights of compensation against the operator shall only be extinguished after a period which may be longer than ten years, but shall not be longer than the period for which its liability is so covered under the law of the Installation State.

In the case of the Technical Cooperation Trust Fund under the Basel Convention, the Interim Guidelines provide for a screening mechanism whereby a private person, institution or company shall apply for compensation for damage to and reinstatement of the environment with the Competent Authority of the developing country or the country with economy in transition where the damage was incurred. If considered adequate by the Competent Authority concerned, it shall submit the request to the Secretariat. Competent Authorities shall establish procedures for application from private persons, institutions or companies. Requests are only admissible if submitted within five years from the date the applicant knew or ought reasonably to have known of the damage and, in any case, within 10 years from the date of the incident or within the lifetime of the Interim Guidelines, whichever is the earlier. If court action is being brought by the applicant, a request may be submitted within that period and notification of a court action be brought to the attention of the Secretariat. The Secretariat will, unless in the circumstances it is unreasonable to do so, await the outcome of the national court action before considering the request. In its consideration, the Secretariat shall use the assessment of damage carried out by the national court(s) in question.

I. Standard of proof

The 1992 Fund, the Supplementary Fund and the HNS Fund are based on the principle of strict liability. The only proof required is therefore the one relating to the compensable nature of the damage suffered, its quantification and the existence of a link of causation between the damage and the oil spill.

Because of their legal personality and the possibility they face of being brought before a national court in case the relevant treaty provisions are not abided by, the three Funds will be bound by any rule governing the standard of proof that is applicable before the court that is seized in the context of legal proceedings to which they are a party.

The availability of the supplementary funds provided under the CSC appears to depend solely on the notification of a nuclear damage pursuant to article VI of

UNCLOS, with no particular standard of proof. Specific standards of proof may be set in particular circumstances by the law of the contracting State whose courts will have jurisdiction.

The operation of the UNC Fund was based on the assumption that the liability of Iraq had already been ascertained, only leaving claimants with the burden of demonstrating the compensable nature of the environmental damage for which they claimed compensation as well as the existence of a link of causation between the damage and the unlawful occupation and invasion of Kuwait by Iraq.

With regard to the Technical Cooperation Trust Fund under the Basel Convention, a request will only be considered to the extent that the amount of the loss or damage is actually demonstrated. The Interim Guidelines foresee that certain flexibility be exercised in respect of the requirement to present documents, taking into account the particular circumstances of the case.

J. Modalities of administration of the funds

Generally speaking, two main models exist with regard to the modalities of administration. One approach involves the attribution of a legal personality to the fund concerned, while in another approach the funds are subsidiary bodies of existing organizations or simply administered by the secretariat of such organizations.
The 1992 Fund, the Supplementary Fund and the HNS Fund are intergovernmental organizations with legal personality in each contracting State, capable of assuming rights and obligations and of being a party in legal proceedings before the courts of that State.[21]

The main governing body of these three funds is an Assembly composed of all contracting States.[22] The 1992 Fund has also established an Executive Committee, made up of 15 elected representatives of contracting States, entrusted with taking policy decisions concerning the admissibility of claims for compensation for oil pollution damage involving the 1992 Fund. The 1992 Fund and the Supplementary Fund currently share a joint Secretariat headed by a Director.[23]

The HNS Fund, once in operation, will have an Assembly and a Secretariat headed by a Director.[24] The Assembly is empowered to establish a Committee on Claims for Compensation with at least 7 and not more than 15 members.[25]

Additional oversight bodies within the two IOPC Funds are the External Auditor, the Joint Audit Body and the Joint Investment Advisory Body.

On the other side of the spectrum, the CSC Fund, the Technical Cooperation Trust Fund under the Basel Convention and the UNC Fund have not been attributed legal personnel, either internationally or domestically.

In the case of the fund foreseen by the CSC, the disbursement and allocation of funds is administered pursuant to articles VII, X and XI of the CSC. UNCLOS, in

[21] Article 2, paragraph 2, of UNCLOS establishing the 1992 Fund and the Supplementary Fund and article 13, paragraph 2, of the HNS Convention.
[22] Article 16 of UNCLOS establishing the 1992 Fund and the Supplementary Fund and article 24 of the HNS Convention.
[23] Article 16 of the Protocol establishing the 1992 Fund and articles 16 and 17 of UNCLOS establishing the Supplementary Fund.
[24] Article 24.
[25] Article 26.

particular, requires contracting States to make the relevant public funds available to the extent and when they are actually required and assigns to them the exclusive competence to disburse such funds.[26] The system of disbursement of the funds and the system of apportionment thereof are the ones of the contracting State whose courts have jurisdiction.[27]

The administration of the Technical Cooperation Trust Fund is performed by the Secretariat of the Basel Convention according to the rules provided by the Basel Convention and by Decision V/32. The Interim Guidelines provide further guidance on how the Secretariat is to administer requests for compensation under the Fund.

The UNC Fund was established as a subsidiary organ of the Security Council of the United Nations. The Governing Council is the policy organ of the UNCC establishing the criteria for the compensability of claims, the rules and procedures for processing the claims, the guidelines for the administration and financing of the UNC Fund and the procedures for the payment of compensation. Panels of Commissioners were entrusted with the task of verifying and evaluating claims in order to determine whether the damages were suffered as a direct result of Iraq's invasion and occupation of Kuwait. The Commission has a Secretariat headed by an Executive Secretary.

K. Insurance requirements

A key component of the functioning of the 1992 Fund and Supplementary Fund and of the HNS Fund is the compulsory insurance requirement. Insurance is generally provided (on a "pay to be paid" basis) by one of the Protection & Indemnity Clubs (liability insurers) that are typically present in the shipping sector.

The 1992 CLC (article VII) and the 2010 HNS (article 12) require shipowners to maintain insurance or other financial security, such as the guarantee of a bank, in the sums corresponding to the limits of liability of the shipowner allowed under the two Conventions. A certificate of insurance attesting the above must be carried on board.

In the field of liability for nuclear damage, article 5 of the CSC requires operators, albeit in different terms, to obtain and maintain insurance or other financial security so as to cover the liability for nuclear damage that they may incur.

A similar rule can be found, notwithstanding the absence of a full-fledged compensation fund, in the 1999 Protocol on Liability and Compensation for Damage Resulting from Transboundary Movements of Hazardous Wastes and Their Disposal, whose article 14 requires liable persons to establish and maintain, during the period of the time limit of liability, "*insurance, bonds or other financial guarantees covering their liability*".

The importance of the compulsory insurance requirement in the context of the above-mentioned legal regimes is, generally speaking, at least twofold. On one hand, it ensures the effectiveness of the system by making it easier for damaged persons to actually obtain compensation. On the other hand, it reduces the risk of having to seek compensation from a compensation fund, where such fund exists, thus rendering the overall system more sustainable.

[26] Article VII, paragraph 1.
[27] Article X, paragraph 1.

L. Dispute settlement

As a consequence of their legal personality, the IOPC Fund, the Supplementary Fund as well as the HNS Fund can be parties in legal proceedings before domestic courts.

The 1992 Fund has been involved in such proceedings on multiple occasions. This has occurred whenever there has been a divergence of views between victims of oil pollution damage, on one hand, and the 1992 Fund, on the other hand, on issues such as the admissibility of a given claim or the quantification of a certain loss. A notable body of domestic case law has developed as a consequence. A summary of each legal proceeding in which the 1992 Fund has been involved is available on the website of the IOPC Fund together with a selection of official documents including civil and criminal judgements.[28]

In the field of nuclear damage, each Contracting Party to the CSC shall enact legislation in order to enable both the Contracting Party in whose territory the nuclear installation of the operator liable is situated and the other Contracting Parties who have paid contributions, to benefit from the operator's right of recourse. The legislation of the Contracting Party in whose territory the nuclear installation of the operator liable is situated may provide for the recovery of public funds made available under the CSC from such operator if the damage results from fault on its part.

In the case of the Technical Cooperation Trust Fund under the Basel Convention, the Interim Guidelines foresee that the Secretariat shall take recourse action, whenever appropriate against any liable person, whenever appropriate, and the Executive Secretary should in each case consider whether it would be possible to recover any amounts paid from the Fund for compensation. The decision whether or not to take such action should be made on a case-by-case basis, in the light of the prospect of success and the provisions of the relevant national law. The Executive Secretary should in each case cooperate with the Party which requested assistance in order to recover the amounts paid by it for compensation for damage to and reinstatement of the environment. Each Party which has received financial assistance will be required to take appropriate actions against the liable company or persons for the recovery of the funds spent from the Fund, where this is possible under the relevant national law. Other Parties will be requested to offer any assistance, in accordance with the respective legal regime, necessary to overcome procedural barriers to taking action in another jurisdiction. If appropriate, the Secretariat shall also take steps to recover monies paid for compensation if the claimant is subsequently successful in a private legal action with respect to the same incident and damage.

The UNC Fund cannot be involved in litigation proceedings of any kind.

[28] https://iopcfunds.org

V. LIMITED ROLE OF EXISTING COMPENSATION FUNDS AS MODELS FOR THE ECF

While existing experiences are valuable in informing the establishment of the proposed ECF, they are not fully replicable in the context of the Area *per se* for a number of reasons. A combination of elements pertaining to each fund may, however, be considered.

First, the legal regime applicable to the Area is unique and does not find any equivalent in the contexts in which compensation funds have been established so far. The unique features of the legal regime for the Area include:

a) the Area is recognized by UNCLOS as the common heritage of mankind (article 136 of UNCLOS), meaning that, at least in theory, all States Parties could have an interest in claiming compensation should damage to the Area and its marine environment occur;

b) UNCLOS establishes that States Parties shall organize and control activities in the Area through the ISA rather than directly themselves, therefore raising the multiple roles of ISA as: i) an eligible entity to seek compensation on behalf of States Parties, ii) an entity through which States Parties would contribute to the ECF and iii) the entity administering the ECF;

c) activities in the Area may only be carried out following approval of a Plan of Work by the Council in the form of a contract between ISA, represented by the Secretary-General, and a qualified entity, be it a State, State enterprise or private entity. While UNCLOS establishes the liability of the contractor for wrongful acts, this therefore remains of a largely contractual nature with impacts on compensation to third-parties; and

d) contractors, which are State enterprises or private entities may only engage in activities in the Area upon condition that they obtain the sponsorship of a State Party to UNCLOS and following the signature of a contract with ISA, which gives rise to questions related to the respective liability of each party involved, as outlined in section II.A.

Second, the international compensation funds that are currently in force in the maritime and nuclear energy fields were established by way of international treaties concomittently with the development of civil liability regimes in those sectors. In contrast, the ECF would be established through the act of a pre-existing international organization with a membership coinciding with the States Parties to UNCLOS. The establishment and modalities of operation and administration of the ECF will therefore need to consider the pre-existing broader legal framework set out in UNCLOS, in particular Part XI and Annex III.

Third, the international compensation funds that have been described above (and in particular the IOPC Funds and the HNS Fund, which are the only two relating to shipping) are meant to ensure that compensation is paid, where applicable, for damage caused in the territory, territorial sea and EEZ of contracting States whereas damage caused in connection with activities carried out in the Area are likely to affect mainly (even if not exclusively) areas beyond the limits of national jurisdiction (the Area itself and the high seas). This, therefore, raises some questions related to who the entities eligible to seek compensation may be.

Fourth, as noted above, all of the above-mentioned international compensation funds or mechanisms (with the exception of the UNC Fund) are an integral part of international legal regimes which provide, first and foremost, for the civil liability of the subject which is in charge of the polluting activity concerned (shipowner, nuclear facility operator, handler of hazardous waste, etc.), with the consequence that the relevant funds are meant to "top up" an existing (and internationally agreed) first tier of liability. In contrast, while article 22 of Annex III of UNCLOS affirms the liability of contractors and the ISA for the actual amount of damage, no fully-fledged norms exist providing for a civil liability regime and covering aspects such as grounds for liability, exemptions and exceptions, a definition of compensable damage. More detailed liability rules, including on damage to the marine environment, are contained in the regulations regarding exploration activities in the Area (see above). Such rules, however, are part of the standard clauses for exploration contracts and, due to their contractual nature, do not confer rights to third parties who may be potentially affected (for example, coastal States in connection with damage suffered within maritime zones under their jurisdiction or States which are not parties to UNCLOS).

Liability under the existing regimes, in addition, is in principle strict whilst liability in the context of Part XI is fault-based.

Fifth, the business sectors affected by the compensation funds which are currently in existence, namely the oil and nuclear energy industry, are characterized by a higher number of operators, a long-standing history also in terms of international presence and a higher degree of homogeneity. Contractors engaged in activities in the Area epitomize a very different reality as noted above, with fewer actors and different nature (e.g. States, State enterprises and private entities). Since an international compensation fund is, generally speaking, (also) the expression of a mutualistic approach, such dissimilarity should not be underestimated when elaborating the rules governing the proposed ECF. Mutualism, in this connection, refers to the fact that members of a homogeneous group of operators belonging to a certain industry sector accept, in various ways, to share, at least in part, the risk that is implied in the activity that they carry out. This can translate (as has been the case for the IOPC Funds) into their participation to a fund called upon to provide additional compensation in case the individual operator that is actually liable is unable to live up to its obligation to compensate. In addition, there are essential differences between the position of the oil and chemical industries and that of the deep seabed mining industry with regards to the sharing of responsibility for marine incidents, with consequences on issues related to the channelling of liability and compensation.

Sixth, attention must be paid to the crucial element of the amount of damage recoverable from a compensation fund. With regard to this matter, the experience shows that there has been a tendency to increase the applicable caps, from time to time, upon evidence of the insufficiency thereof in face of the magnitude of the

impact of environmental accidents that occurred in the past and those likely to occur in the future. This is particularly true for the 1992 Fund, whose maximum liability has been revised and upgraded over the years by way of successive amendments to the pertinent provisions of UNCLOS establishing the Fund, up to the creation of the Protocol establishing the Supplementary Fund, whose purpose is to give a more limited number of States the possibility of acceding higher levels of compensation over and beyond those made available by the 1992 Fund. States have, in other words, adopted a pragmatic and result-driven approach, based on the experience accrued through years of international practice. Using the current amounts provided for in those funds to gauge the amounts payable and contributions required under the proposed ECF may therefore not be appropriate. A similar approach of periodic reviews may have to be taken as the industry develops and more is known about the extent of activities in the Area, as well as potential risks and damages.

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VI. ENVIRONMENTAL COMPENSATION FUND FOR ACTIVITIES IN THE AREA

A. Compensable damage

At the outset, it must be stressed that only damage that results from activities in the Area should be compensated by the proposed ECF. Damage from other activities impacting the Area shoud, in principle, be excluded from the scope of the ECF. This in line with Article 22 of Annex III to UNCLOS, the overall mandate of the ISA in relation to the protection of the marine environment from harmful effects which may arise from activities in the Area, and also with the wording of the Draft Exploitation Regulations, which refers to damage *arising from activities in the Area*.

It is also necessary to recall that only damage that is causally linked to wrongful acts of the contractor should be compensable. As recalled by the SDC, the liability regime established by UNCLOS is a fault-based regime.

(i) Type of damage caused

Regarding the type of loss or damage to be covered, the SDC noted that whilst neither UNCLOS nor the existing regulations adopted by the ISA specify what constitutes compensable damage, *"[i]t may be envisaged that the damage in question would include damage to the Area and its resources constituting the common heritage of mankind, and damage to the marine environment".*[29]

As a result, while the Draft Exploitation Regulations currently only refer to "damage to the Area", it is suggested that the ECF also cover "damage to the marine environment" provided that it cannot be recovered from a contractor or sponsoring State, as this is the type of damage whose recoverability is most likely to be negatively affected by the inability of a contractor to meet its liability in full, including in light of the current lack of insurance cover for environmental damage. Such an approach is in line with article 235, paragraph 3, of UNCLOS. It is also consistent with the overall legal regime applicable to the Area and the responsibility of States Parties to ensure that activities in the Area, whether carried out by States Parties, or State enterprises or natural or juridical persons which possess the nationality of States Parties or are effectively controlled by them or their nationals, shall be carried out in conformity with Part XI of UNCLOS.[30] This includes article 145 on the protection of the marine environment.

While the Draft Exploitation Regulations do not currently provide definitions for "damage to the Area" and "damage to the marine environment", in the context of Part XI, article 145 of UNCLOS provides some guidance in specifying the appropriate rules, regulations and procedures to be

[29] Responsibilities and obligations of States sponsoring persons and entities with respect to activities in the Area Advisory opinion, 1 February 2011, *ITLOS Reports* 2011, para. 179.
[30] Article 139 UNCLOS.

adopted by the ISA to ensure effective protection for the marine environment from harmful effects which may arise from activities in the Area, namely those for:

> *"(a) the prevention, reduction and control of pollution and other hazards to the marine environment, including the coastline, and of interference with the ecological balance of the marine environment, particular attention being paid to the need for protection from harmful effects of such activities as drilling, dredging, excavation, disposal of waste, construction and operation or maintenance of installations, pipelines and other devices related to such activities; (b) the protection and conservation of the natural resources of the Area and the prevention of damage to the flora and fauna of the marine environment".*

Article 1, paragraph 1(4) of UNCLOS also provides for a definition of "pollution of the marine environment" as:

> *"[T]he introduction by man, directly or indirectly, of substances or energy into the marine environment, including estuaries, which results or is likely to result in such deleterious effects as harm to living resources and marine life, hazards to human health, hindrance to marine activities, including fishing and other legitimate uses of the sea, impairment of quality for use of sea water and reduction of amenities".*

In principle, the following may therefore be considered as damage to the Area and the marine environment:

- Interference with the ecological balance;
- Damage to the flora and fauna;
- Harm to living resources and marine life;
- Hazards to human health;
- Hindrance to marine activities, including fishing and other legitimate uses of the sea;
- Impairment of quality for use of sea water; and
- Reduction of amenities.

In line with international current practices as outlined above, the Draft Exploitation Regulations currently allow for the compensation of preventive measures, that is of measures intended to prevent damage from occurring or to limit the consequences thereof, as well as of remediation measures, which are those aimed at cleaning-up a contaminated area by removing or isolating contaminants.

Preventive measures could also include, if considered appropriate, activities carried out to study, monitor and assess the damage, following the example of the 1992 IOPC Fund (see above).[31]

In addition, the Draft Exploitation Regulations also refer to the "restoration and rehabilitation of the Area when technically and economically feasible and supported by best available scientific evidence". This is consistent with the approach taken in a number of funds reviewed for this study, both at the international and national levels (see **Annexes I** and **II**). While restoration is understood to aim at rebuilding the

[31] Similarly, this has ben the solution adopted in the framework of the United Nations Environment Programme with regard to the 1995 Barcelona Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean. See, in this respect, the Guidelines for the Determination of Liability and Compensation for Damage resulting from Pollution of the Marine Environment in the Mediterranean Sea Area (article 10 in particular).

ecosystem that existed at the mine site prior to disturbance, rehabilitation aims at the establishment of a stable and self-sustaining ecosystem, but not necessarily the one that existed prior. In many cases, complete restoration may not be possible but successful remediation and rehabilitation can assist in the establishment of a functional ecosystem and return to the ecological balance of the marine environment.

Recently adopted regional civil liability instruments have included as recoverable damage the temporary diminution in value of natural or biological resources pending restoration as well as compensation by equivalent in case the impaired environment cannot be returned to its previous state.[32] The recent pronouncements of the International Court of Justice in the case *Certain activities carried out by Nicaragua in the border area (Costa Rica v. Nicaragua),* compensation also goes in that direction.[33]

However, it is suggested that the ECF operates similarly to the IOPC Funds with regard to the non-compensability of what is referred to as "pure" environmental damage (see section IV.A above). It may be advisable to exclude compensation for the loss of environmental services and to focus instead, under certain circumstances at least, on the recoverability of reasonable measures of reinstatement undertaken or to be undertaken and of costs incurred for post-incident studies. Other headings of damage have been excluded as the analysis of the Claims Manual and of the relevant case law demonstrates (see section IV.A). It has also been pointed out that there will also likely be challenges associated with quantification of pure environmental damage. The financial viability of the ECF is also a consideration in limiting the headings of compensable damage.

As noted above and acknowledged in UNCLOS, other kinds of loss or damage, namely hazards to human health, hindrance to marine activities, impairment of quality for use of sea water, and reduction of amenities, may occur, especially in relation to effects of an accident that may be felt in the high seas or in areas under the jurisdiction of coastal States.

However, although physical damage, economic loss and personal injuries can be determined by the same set of facts or series of occurrences giving rise to damage to the marine environment, the view is taken here that they should not be included in the scope of application of the envisaged ECF. This is so for at least three different reasons. First, the more "traditional" headings of damage, will most likely be covered by otherwise applicable legal regimes, either by way of contractual or non-contractual liability schemes. Secondly, because there seems to be a general sentiment that the purpose

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[32] See the Guidelines for the Determination of Liability and Compensation for Damage resulting from Pollution of the Marine Environment in the Mediterranean Sea Area (above, fn. 3).

[33] The Court considered that it is consistent with the principles of international law governing the consequences of internationally wrongful acts, including the principle of full reparation, to hold that compensation is due for damage caused to the environment, in and of itself, in addition to expenses incurred by an injured State as a consequence of such damage. It therefore expressed the view that damage to the environment, and the consequent impairment or loss of the ability of the environment to provide goods and services, is compensable under international law. Such compensation may include indemnification for the impairment or loss of environmental goods and services in the period prior to recovery and payment for the restoration of the damaged environment. The Court further added that payment for restoration accounts for the fact that natural recovery may not always suffice to return an environment to the state in which it was before the damage occurred. In such instances, active restoration measures may be required in order to return the environment to its prior condition, in so far as that is possible. *Certain activities carried out by Nicaragua in the border area (Costa Rica v. Nicaragua) Compensation owed by the Republic of Nicaragua to the Republic of Costa Rica*, Judgment of 2 February 2018, paras. 39-43.

of the ECF should be "*restricted to that put forward by the SDC of the International Tribunal for the Law of the Sea*" in its 2011 advisory opinion.[34] Thirdly, the risk exists that expanding the scope of operation of the ECF beyond the notion of damage to the Area or the marine environment may jeopardize its workability, not only as a consequence of its potentially enhanced exposure, but also due to the increased risk of disputes arising as to whether or not compensation can be obtained from the ECF. The wider the notion of compensable damage, the higher the risk of dispute over the existence of an actual duty to compensate in any given instance. Since it is impossible to obtain compensation from the contractor or the sponsoring State is the basis for the intervention of the ECF, any element of ambiguity in the notion of compensable damage should be avoided.

(ii) Geographic scope of application

The Draft Exploitation Regulations currently limit the ECF's use of damage *to the Area arising from activities in the Area*. It is however not excluded that damage originating in the Area would spread to the high seas and to areas under the national jurisdiction or sovereignty of coastal States.

It is suggested that damages caused by activities in the Area to the marine environment of the high seas should be covered by the ECF. A strong physical and ecological connection exists between the Area and the superjacent water column and water surface. In addition, while the fact that the Area and the high seas are subject to different legal regimes may suggest not to include the latter in the geographic scope of application of the proposed ECF, the definition of "activities in the Area" as interpreted by the SDC (see section II.B) clearly shows the continuum that exists between the various activities and processes involved in the mining activity from seabed to the sea surface through the water column. Examples include damage resulting from transportation within the high seas when directly connected with extraction and lifting in the Area, such as transportation between the ship or installation where the lifting process ends and another ship or installation where the evacuation of water and the preliminary separation and disposal of material to be discarded take place (as specified in paragraph 96 of the Advisory Opinion).

Damage caused by activities in the Area to the marine environment of the maritime zones under the jurisdiction or sovereignty of coastal States could also be covered. Such an approach would be consistent with article 145 of UNCLOS, which refers to damage to the coastline. This would also be consistent with the 'polluter pays' principle. In this specific case the eligible entity would be the coastal State affected (see section VI.C).

However, expanding the geographic scope of the ECF would require careful consideration of the impact this may have on the contributing entities, the quantum of their contributions and the size of the ECF generally.

(iii) Minimum threshold

While the notion of "serious harm" to the marine environment is used in UNCLOS in relation to activites in the Area, such use is limited to three specific instances related to: i) the issuance of emergency orders to prevent serious harm to the marine environment; ii) the disapproval of areas for exploitation in cases where substantial evidence indicates the risk of serious harm to the marine environment; and iii) the prescription of provisional measures by an international court or tribunal to prevent serious harm to the marine environment

[34] Comments on the Draft Exploitation Regulations on the exploitation of mineral resources in the Area, Note by the Secretariat, ISBA/26/C/2.

in the case of a dispute pending a final decision. Neither articles 145 and 209 of UNCLOS, directly related to the protection of the marine environment from activites in the Area, nor articles 139 and 22 of Annex III, related to liability, include such a threshold.

The international legal practice reviewed in section IV does not suggest either that a minimum threshold of damage, such as "serious" or "significant" harm, should be set as a condition for obtaining compensation from the ECF. In addition, it is advisable to align any requirement relevant to compensable damage to that applicable to the liability of the contractors or sponsoring State (i.e. "for any damage"), in order to ensure consistency and also that the primary objective of the ECF (i.e. to fill the liability gap) is achieved.[35]

The current wording of the Draft Exploitation Regulations is consistent with such an approach by referring to "any damage".

B. Type of liability and exclusions

Compensation from the proposed ECF should only be available in order to fill the gap identified by the SDC in its 2011 advisory opinion, namely when the concerned contractor is liable and is unable to meet its liability in full and its sponsoring State is not liable.

The perimeter for the intervention of the ECF will, as a consequence, be determined in an objective and positive manner without the need to have recourse to liability standards or carve-outs. While noting that the liability of the contractor arises from its wrongul acts in accordance with article 22 of Annex III, that is, as clarified by the SDC, from the failure of the contractor to comply with its obligations under its conctract and its undertakings thereunder,[36] compensation by the ECF will not be the consequence of the application of a set of liability (and exception or exemption) rules, but rather of the coexistence of the two factors: liability of the contractor and absence of liability of the sponsoring State, on one hand, and impossibility for the contractor to meet its liability in full, on the other hand. When these conditions are met, recourse to the ECF will be possible.

As a result, exclusions or exceptions currently in place in the context of other funds (see Section IV.B), should not apply to compensation from the ECF.

C. Eligible entities

The eligible entities will be determined by the types of compensable damage.

As far as damage to the Area and to the marine environment of the Area is concerned, ISA could be qualified as the only eligible entity. This would be in line with the role of the ISA, acting on behalf of mankind, as outlined in section II.A above. This would also be similar to the situation of comparable funds at the national level in mining jurisdictions, whereby the regulator is the only eligible entity.

[35] Unlike, for example, the approach taken by the International Law Commission in the different context of the elaboration of a series of "Draft principles on the allocation of loss in the case of transboundary harm arising out of hazardous activities" finally adopted in 2006 (https://legal.un.org/docs/?path=../ilc/texts/instruments/english/draft_articles/9_10_2006.pdf&lang=EF). Principle 2, in fact, defines "damage" as "significant damage caused to persons, property or the environment" including: "(i) loss of life or personal injury; (ii) loss of, or damage to, property, including property which forms part of the cultural heritage; (iii) loss or damage by impairment of the environment; (iv) the costs of reasonable measures of reinstatement of the property, or environment, including natural resources; (v) the costs of reasonable response measures".

[36] Responsibilities and obligations of States sponsoring persons and entities with respect to activities in the Area Advisory opinion, 1 February 2011, *ITLOS Reports* 2011 para. 204.

However, the possibility of considering any States Parties to UNCLOS as eligible entities seeking compensation for the measures they may take individually, could be considered too in light of the status of the Area and its resources as the common heritage of mankind and, as recalled by the SDC, of the *erga omnes* character of the obligations relating to preservation of the marine environment of the high seas and the Area.[37]

Should the decision be made to include damage to the marine environment of the high seas as well, the issue would be raised concerning the identification of the eligible entity. This is a point of a general nature but of critical importance. Two solutions could potentially be identified: (i) any State or a group of States could, in principle, seek compensation for the measures undertaken, including non-Parties to UNCLOS; or (ii) the ISA could be assigned such a role on an exclusive basis and on behalf of States Parties as a whole.

With regard to damage originating in the Area but suffered also in maritime zones falling under the jurisdiction or sovereignty of coastal States, these coastal States could be eligible to seek compensation from the ECF for the damage that is suffered within their national jurisdiction or sovereignty if they are unable to get full compensation from the sponsoring State or contractor. This would be consistent with article 145 of UNCLOS and with article 142 of UNCLOS which safeguards the rights of coastal States to take such measures as may be necessary to prevent, mitigate or eliminate grave and imminent danger to their coastline, or related interests from pollution or threat thereof or from other hazardous occurrences resulting from or caused by any activities in the Area, as well as with the Draft Exploitation Regulations as far as they relate to protection measures in respect of coastal States.

D. Amount of compensation and compensation caps

As far as the amount of compensation available is concerned, it must be recalled that article 22 of Annex III to UNCLOS makes it clear that liability of the ISA and the contractors shall be for the actual amount of damage. Based on the "residual" nature of the proposed ECF, however, compensation will, by definition, be residual and only cover that part of the damage that the liable contractor or its sponsoring State(s) cannot cover.

Since there is a general agreement that the ECF should be compensatory in nature, in line with existing international practice, it is submitted that the amount of compensation recoverable from the ECF should take into account the actual cost incurred or to be incurred for the preventation, limitation or remediation, as well as restoration or rehabilitation of the Area and damaged marine environment. Such costs shall be reasonable, justified and based on the best available scientific practices.

Different headings of damage require different considerations with regard to the quantification of the amount of compensation.

With regard to preventive measures, as well as restoration and rehabilitation, it is suggested that the relevant cost should be made compensable by the ECF according to a criterion of reasonableness irrespective of the successful or unsuccessful outcome of these measures. A requirement that restoration and rehabilitation measures offer a reasonable prospect of success may, however, be introduced as in the case of the Technical Cooperation Trust Fund in the context of the Basel Convention.

[37] Para.180.

It is suggested that the ECF's exposure should not be unlimited, while bearing in mind that the aggregate compensation from the contractor/its sponsoring State(s) and the ECF should be for the actual amount of damage. First, compensation by the ECF is intended to be separate from and additional to the contractor's or sponsoring State's liability. Second, it can be presumed that providing for unlimited compensation may be detrimental to the ECF's viability. Admittedly, a scenario could emerge where entities who have suffered damage following the occurrence of an accident may have to compete against each other for the purpose of obtaining compensation. A fixed amount of maximum compensation might therefore appear inappropriate or, at least, unfair due to the impossibility to grant compensation to every damaged entity.

However, the suggestion to introduce a cap (as is done for both the IOPC Funds and in a different form by the nuclear liability regime) is grounded by the need to ensure predictability. Although the much smaller number of exploitation contractors reduces the number of potential accidents as compared to the situation of carriage of oil and other cargo by sea, the extent of damage might be similar, notwithstanding the fact that, for example, several headings of damage that are covered by the IOPC Funds may not be covered by the envisaged fund.

There have been cases of unlimited liability in the realm of environmental damage. This is so, for example, with respect to Directive 2004/35/CE of the European Parliament and of the Council of 21 April 2004 on environmental liability with regard to the prevention and remedying of environmental damage.[38] However, the Directive was adopted in the unique context of European Union law, and it has a somewhat limited scope of application as it focuses on: (a) environmental damage caused by a closed list of activities, and to any imminent threat of such damage occurring by reason of any of those activities; (b) damage to protected species and natural habitats caused by any activities other than those listed, and to any imminent threat of such damage occurring by reason of any of those activities, whenever the operator has been at fault or negligent (article 3). As noted above, no limit is provided either in the context of the UNC Fund. This is, however, to be seen in the light of its very circumscribed scope as well as of its mode of operation, represented by a mixture of prioritization mechanisms and payments in instalments.

With regard to the proposed ECF, the potential magnitude of the damage that may arise from exploitation in the Area, and the cost of such damage, may be estimated on the basis of reasonable "worst case scenarios". However, until the environmental consequences of activities in the Area are fully understood and quantified, the ECF should not have a low compensation cap.

By way of comparison, the cap in effect under the 1992 Fund Convention is currently of *circa* USD 280 million for each individual accident or series of accidents and the cap under the Supplementary Fund is currently of circa USD 1 billion for each individual accident or series of accidents. At the national level, in the context of mining, the Queensland Mineral and Energy Resources Act provides a cap of AUD $450 million, while, in the context of offshore oil and gas, expenditures from the US Oil Spill Liability Trust Fund for any one oil pollution incident are limited to US$1 billion or the balance of the Fund, whichever is less. One should bear in mind, however, that these funds

[38] *Official Journal of the European Communities*, L. 143 of 30 April 2004, p. 56.

also compensate for economic loss and deal with different economic activities, with different operational risks than deep seabed mining.

Whichever figure is initially decided upon, if any, a review mechanism should be established aimed at re-assessing, at regular intervals, the appropriateness of the figure, as experience with exploitation in the Area develops.

E. Contributing entities

As noted elsewhere, a condition for the successful implementation of compensation funds in other regimes has been the presence of other actors, beyond the operator, who are prepared to make contributions to the fund.

The Draft Exploitation Regulations currently foresee that the ECF will consist of the following monies:

(a) The prescribed percentage or amount of fees paid to ISA;

(b) The prescribed percentage of any penalties paid to ISA;

(c) The prescribed percentage of any amounts recovered by ISA by negotiation or as a result of legal proceedings in respect of a violation of the terms of an exploitation contract;

(d) Any monies paid into the ECF at the direction of the Council, based on recommendations of the Finance Committee; and

(e) Any income received by the ECF from the investment of monies belonging to the ECF.

As such, ISA is envisaged, at least with respect to sub-paragraphs (a) to (c), as the primary contributor to the ECF based on monies received from contractors. This is in line with the practice in some domestic jurisdictions, such as South Australia, whereby the government (as regulator) contributes to the respective fund using a percentage of the licence fees and royalties received.

Suggestions have been made that contractors could be required to pay an annual levy or fixed amount to the ECF.[39] This would be in line with the liability-related provisions of UNCLOS, the SDC's advisory opinion and the 'polluter pays' principle, which suggest that those that are engaged in activities in the Area for the purpose of gaining a profit out of such activities should be responsible for alimenting the envisaged ECF.

The question could be raised, however, of whether contractors should be required to contribute to the ECF, pursuant to sub-paragaph d) above, since they are already directly responsible for damage arising out of wrongful acts in the conduct of their operations in the Area through insurance. In this respect, however, the contractors' additional involvement in the context of the envisaged ECF is a way to achieve full implementation of article 22 of Annex III to UNCLOS. Bearing in mind the residual nature of the proposed ECF, what is at stake here is not a situation where a contractor may be required to provide double compensation for the same damage (compensation *stricto sensu* plus contribution to the ECF) but, quite the opposite, a circumstance where there is a substantial risk of some damage

[39] Report of the Chair on the outcome of the second meeting of the open-ended working group of the Council in respect of the development and negotiation of the financial terms of a contract under article 13, paragraph 2, of annex III to the United Nations Convention on the Law of the Sea and section 8 of the annex to the Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982, International Seabed Authority, ISBA/25/C/32, 25th session, Council session, part III, 15 July 2019. See also "Draft Exploitation Regulations on exploitation of mineral resources in the Area - Collation of specific drafting suggestions by members of the Council" (ISBA/26/C/CRP.1).

not being compensated in full because of the inability of the liable party to live up to its obligations, including through insurance.

The conceptual framework behind the proposed system is reasonably straightforward. If all contractors pay a certain sum into the ECF, whenever the time comes to compensate for damage to the marine environment caused by activities in the Area, any sum paid out of the ECF will come from every contractor, including the one that has caused the damage.

Two aspects of such a scheme have to be stressed. First, the contractor itself - despite being unable to pay compensation fully - will nonetheless be, at least in part, financially responsible for covering the liability gap, on the basis of the monies contributed by it to the ECF up to that point. Second, the fact that other contractors will also be financially responsible on the basis of the monies contributed by them to the ECF up to that point answers to the idea of mutualism that is not only frequently found in international law (this is the case, for example, with the IOPC Funds and the HNS Fund), but also efficient from an economic standpoint.

One consideration that needs to be borne in mind is that it may not be advisable to rely solely on contractors to contribute to the ECF, particularly in its initial years of operation. It is difficult to see, for example, how a levy or royalties could be used to ensure that the ECF has enough funds prior to the first contractor commencing commercial production. A number of contracts (30) have been concluded so far for exploration. There is no indication, however, of how many of these contracts will evolve in due course into contracts for exploitation, but one can assume that a reasonable proportion will.

The ECF may be under-funded in its initial years of operation whilst there are limited contractors operating in the Area and the it will therefore not be sufficiently financed through contractor contributions in the event of environmental damage caused by activities in the Area that cannot be fully compensated through insurance.

One possible scenario could be that sponsoring States could be required to make contributions to the ECF, potentially in the form of advances, for either a fixed period of time or until the ECF reaches a minimum threshold (calculated by reference to either the aggregate of sponsoring States contributions or the aggregate of contractor payments, or a combination of the two). Once the ECF reaches a certain threshold, the requirement for sponsoring State to contribute would cease. As the ECF increases above the threshold, ISA could return the advances made by these States on a proportionate basis (whilst ensuring that the ECF always remains above a minimum threshold).

Consideration could also be given to something akin to the 1992 IOPC Fund, Supplementary Fund and HNS Fund where the funds are financed by the receivers of certain types of cargo by sea transport. If such an approach were adopted in the case of the proposed ECF, processing companies would contribute based on the quantity of ores received (see section IV.E), instead of or in addition to the collectors of minerals. This may expand the pool of potential contributing entities. However, this is not the practice in the context of land-based mining and the operation of such a system may prove challenging, including in light of the jurisdictional scope of ISA and the fact that some processing companies may be nationals of non-Parties to UNCLOS. In addition, the statement by the SDC, in its Advisory Opinion, that "*'Processing', namely, the process through which metals are extracted from the minerals and which is normally conducted at a plant situated*

on land, is excluded from the expression 'activities in the Area'",[40] further limits the jurisdictional scope of ISA, *ratione personae*, to contractors and sponsoring States. While the Draft Exploitation Regulations, similarly to the exploration regulations, include processing in the definition of "exploitation", this seems to be limited to processing in the Area or shipboard processing, which, presumably, would be carried out by the contractor itself rather than a third-party processing company.

F. Contributions to the ECF

Three different variables may come into play in relation to the contributions to the envisaged ECF.

Mineral resources exploited. It would make little sense for the envisaged ECF to be divided into sections or sectors covering activities carried out in specific locations and/or dedicated to the exploitation of specific categories of minerals.[41] While deposits of the same resource may not have the same value or yield depending on where they are located, this point can be taken into account in connection with the calculation of the amount of contributions by contractors, if any (see below).

Timeframe. With regard to the timeframe, contractors could be required to contribute from the moment at which commercial production starts, bearing in mind that they may not have the required liquidity at the prior initial stages of exploitation (feasibility, construction, production ramp-up). This means that contractors' contributions, to some extent, can be used in case funding or compensation must be ensured after they have completed their activities under the contract. Conversely, should an accident be caused by a contractor that is a relative newcomer, monies paid by past contractors will be available through the envisaged ECF.

Amounts of contributions. Finally, the calculation of the amount that contributing entities should contribute to the ECF will have to be a function of its intended minimum size and, in turn, of the maximum available compensation, if any.

It seems unwise to solely base contractors' contributions on the value of the extracted minerals. Although this may be a more attractive option from a contractor's perspective, it is not excluded that damage to the Area and the marine environment may be generated also when the overall value of the extracted minerals is relatively low. Extractive industries can be volatile and are subject to various market forces. As such, should ISA impose a fixed annual fee, contractors may find themselves in a position where, in certain years, they are unable to pay the fee or payment may affect their liquidity. The contractor should always be financially capable of meeting its payment obligation.

Consequently, an option could be to require contractors to pay a fixed minimum contribution as a temporary (transitional) measure, until the initial threshold of the ECF has been met by a mix of contributions from the sources outlined in the Draft Exploitation Regulations ensuring the workability of the system, after which an annual levy based on the value of extracted minerals may be preferable.

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[40] Para. 95.

[41] A different approach is taken by the HNS Convention, where, in addition to a general account, separate accounts are created and alimented by receivers of each of the substances to which UNCLOS apply (see para. 99 above).

Finally, as was proposed in the context of discussions at ISA,[42] consideration may be given to the possibility of incorporating into the system, as an incentive for stimulating the contractors' good environmental performance, the granting of some form of incentive, in the form of a refund to contractors or a reduction of the amount payable to the ECF by contractors who engage in environmentally responsible conduct going beyond full compliance with the regulations. This is currently not done in other funds, including those at the national level reviewed for this study, and would therefore represent a novelty. Should such an approach be considered, a critical aspect to bear in mind is the need to maintain adequate funds in the ECF and ensure its viability overtime.

G. Size of the ECF

A relationship exists between, on one hand, the number of contractors involved in exploitation activities at any given time and, on the other hand, the potential number of accidents that may occur causing damage to the Area and the marine environment.

In addition, the capacity of the contractors to fulfil their liability obligations in full, and the absence of a liability of the sponsoring States, will also impact the need for the envisaged fund to intervene.

If a decision is made to opt for a fixed size of the ECF, it is important to note that there is no perfect formula for coming up with the exact figure as too many variables currently exist in terms of risk of an accident happening, number of potential accidents, extent of damage to the Area and the marine environment and capacity of the contractor concerned to live up to its liability obligations in full.

Existing international compensation funds do not have a fixed size and their dimension changes depending on their needs on a case-by-case basis.

The critical aspect in estimating the size of the envisaged ECF should be to ensure that it is actually capable of providing residual compensation in order to fill the liability gap identified in section III.A.

A high degree of consistency, in addition, must be ensured between the size of the ECF and the contributions paid into it, on one hand, and the maximum cap (if any) to its exposure in terms of compensation for any given accident, on the other hand.

By way of example, in order to ensure flexibility, the 1992 Fund, which also has a residual nature in the sense that its intervention is required when the shipowner is not liable or is not able to live up to its obligations in total or in part, is based on a mechanism which comprises a "general account" where payments are made for the purpose of ensuring compensation for all accidents and a system of "separate accounts", each one being set up, in case of need, to ensure compensation when a major accident occurs. Contributions to the general account and to each separate account are determined annually on the basis of existing compensation needs and in proportion to the quantity (as opposed

[42] Report of the Chair on the outcome of the second meeting of the open-ended working group of the Council in respect of the development and negotiation of the financial terms of a contract under article 13, paragraph 2, of annex III to the United Nations Convention on the Law of the Sea and section 8 of the annex to the Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982, International Seabed Authority (ISBA/25/C/32).

to the value) of oil received by receivers/contributors in any given contracting State (see above).[43]

Consideration would need to be given to what an acceptable minimum threshold might be for the ECF, as it is the floor that matters from a risk management perspective. The minimum size of the ECF could be calculated as follows. In every calendar year, bearing in mind the number of active contractors, an estimate of the possible damages covered by the ECF should be done, based on a) the estimated costs of prevention, restoration and rehabilitation measures, and b) an estimation of the risk of damage happening in any given year. In light of the suggestion above that a compensation cap be prescribed per individual accident, the yearly size of the ECF would automatically result from there.

In addition, the following additional measures could be considered as a means to incentivize contractors to act in an environmentally sound manner:

- In case no accident occurs in a given year that would require compensation from the ECF, no contribution would be required in the following year from the contractors that have paid their dues in the preceding year;
- In case the ECF is unable to pay compensation because of an exceptionally high number of accidents in any given year, provision will be made for contractors to pay extraordinary contributions.

H. Modalities of access

With regard to the modalities of access to the proposed ECF, it is suggested that entities seeking compensation complete a written submission, in a format to be specified by the administering entity of the ECF, to be submitted to a dedicated fund focal point which should also carry out a preliminary assessment of eligibility and also serve as a source of information.

Guidelines should be developed governing the modalities of access in detail. Such guidelines should, as a minimum:

- Provide a standard submission form;
- Specify in what language(s) a submission can be made;
- Indicate what additional documents would need to be attached to the submission, including documentary evidence and witness expertise if necessary;
- Regulate the procedure through which the submission shall be handled, including the identification of the decision-making process and the decision-making body as well as the right of the submitting entity to be heard and the format of the decision;
- Specify any applicable time bar or statute of limitation;
- Admit or prohibit the assignment of a right to compensation from the ECF (thus allowing or excluding the possibility for a transferee of such right to seek compensation from the ECF).

Since the ECF will only come into play once the liability of a contractor has been established and it is determined that the contractor cannot live up to its ensuing compensation obligation in full, an additional aspect to consider relates to a possible requirement to exhaust local remedies or domestic procedures

[43] By way of example, the following amounts were levied or paid under the IOPC Fund in the last 3 years, bearing in mind that the Fund has a broader scope of compensable damage than is envisaged for the ECF: US$ 33 million levied in 2018 alone in connection with the *Agia Zoni II* accident (separate account); US$ 44 million levied in total in 2018 in connection with all accidents (general and separate accounts); US$ 169 million paid as compensation as at the end of 2019 in connection with the *Prestige* accident.

established by the sponsoring State(s) before accessing the envisaged ECF. The crucial question is how the liability of the contractor can be ascertained with the degree of certainty needed to trigger the intervention of the ECF. Different pathways to the determination of the contactors' liability will exist. Where liability is disputed, one cannot exclude the possibility of a judgement by a domestic court declaring the existence of such liability. A court's judgment would then be sufficient evidence for the ECF to process a submission (see also section I below). If the liability is not disputed, in the absence of a judgment, a review mechanism could be established within the sponsoring State, akin to the screening mechanism established in the context of the Technical Cooperation Trust Fund under the Basel Convention (see Section IV.H above), to avoid exposing the ECF to unfounded submissions, allowing the sponsoring State to conclude that a submission is manifestly lacking in merit or dismiss a submission if further information has not been provided within a specified time. The review would also seek to ensure that entities seeking compensation from the ECF have not already received full compensation for the same damage from a third party. While the framework under UNCLOS does not provide for recourse to domestic courts for compensation of environmental damage caused to the Area by activities in the Area, the SDC stated that article 235, paragraph 2, of UNCLOS, which sets out the obligation for States to ensure that recourse is available in accordance with their legal systems for prompt and adequate compensation or other relief in respect of damage caused by pollution of the marine environment by natural or juridical persons under their jurisdiction, applied to sponsoring States as the State with jurisdiction over the persons that caused the damage. It further noted that "*[B]y requiring the sponsoring State to establish procedures, and, if necessary, substantive rules governing claims for damages before its domestic courts, this provision serves the purpose of ensuring that the sponsored contractor meets its obligation under Annex III, article 22, of UNCLOS to provide reparation for damages caused by wrongful acts committed in the course of its activities in the Area*".[44]

It can be argued, however, that, because of the residual nature of the ECF, a requirement to exhaust local remedies, where the liability of the contractor or sponsoring State are not disputed, would be unnecessary and also inconsistent with the international and national practice for similar funds, as well as the standard of promptness of compensation. Since the ECF is intended to intervene in case a liable contractor is not able to fulfil its compensation obligation in full and the sponsoring State is not liable, imposing to the damaged entity to go through a national system may not be advisable. Such an option would likely act as a barrier to the applicant's access to funds. Timely access to such compensation, particularly for developing States, will be critical.

I. Standard of proof required

The question of standard of proof revolves around the issue of the evidence that has to be provided in order to obtain compensation from the ECF.

Assuming, on one hand, that the approach taken by ISA is the one according to which only damage to the Area and the marine environment will be compensated, the following considerations may apply.

With regard to preventive measures, evidence will have to be provided by way of documents or other means by anyone having taken such measures and seeking to recover the relevant costs from the ECF.

[44] Para.140

Evidence will have to include proof of the details of the intervention that has been carried out, proof of the existence of a causal link between the activity carried out in the Area and the damage prevented in whole or in part by the said intervention and proof of the costs that have been incurred and of the impossibility to obtain full compensation from the liable contractor or the sponsoring State.

In the cases of measures undertaken or to be undertaken to restore or rehabilitate the impaired environment, it is suggested that evidence includes, in addition to the above, a demonstration that such measures are technically feasible (in case the measures have not yet been undertaken in whole or in part), economically reasonable and based on best available scientific evidence.

The above implies that, in order to obtain compensation, the relevant submission for compensation should be corroborated by appropriate technical and scientific data and, if possible, expert witnesses.

The standard of proof will be a key issue for the ECF and should be sufficiently prescribed in a standard in order to limit onerous and unfounded submissions.

J. Modalities of administration

One crucial aspect to be considered in relation to the modalities of administration of the proposed ECF concerns its legal status and structure. As noted above, different solutions have been embodied in different international instruments: the establishment of a fully-fledged international organization (as in the case of the IOPC Funds and the HNS Fund); or the creation of a combined system of national and international *ad hoc* funds (as in the case of the legal regime on compensation and liability for nuclear damage). However, neither of those models appears to be replicable in the present instance. The legal regime for the Area, as set out in Part XI of UNCLOS and the Part XI Agreement, does not envisage the need to establish a new international body separate from ISA. The setting up of a series of national funds and the creation, in case of need, of an international fund to be used for the purpose of one individual accident would not be suitable either.

The mechanism envisioned by the Conference of the Parties to the Basel Convention, on one hand, and the UNC Fund, on the other hand, are more fitting models. Under the Basel Convention, by decision of the Conference of the Parties, the scope of an existing Technical Cooperation Trust Fund was broadened for the purpose of ensuring compensation also for damage resulting from incidents arising out of transboundary movements and disposal of hazardous and other wastes upon entry into force of the 1999 Protocol to the Basel Convention. With regard to the UNC Fund, it is part of the UNCC which is itself a subsidiary organ of the United Nations Security Council.

As far as ***administration of the monies pertaining to the ECF*** is concerned, a decision will have to be taken at the outset regarding the currency in use by the ECF for general purposes other than its day-to-day activities, the main alternative being between a national currency or an international standard such as the Special Drawing Rights which are employed by the International Monetary Fund.

The following features would also have to be implemented in the rules governing the administration of the assets of the ECF, taking into account the Financial Regulations and Rules of ISA:[45]

[45] *Financial Regulations of the International Seabed Authority and Financial Rules of the International Seabed Authority*, ISBA/ST/SGB/2008/02, 12 February 2014.

- Identification of a senior figure (possibly appointed ad hoc) entrusted with the responsibility of managing all monies accruing to the ECF;
- Identification of one or more officers of ISA entrusted with the administration of the banking accounts where the monies belonging to the ECF are placed;
- Investment of the assets of the envisaged ECF which are not required for ordinary operations so as to ensure that the following objectives are pursued: (a) maintenance of sufficient liquidity for the operation of the envisaged ECF; (b) avoidance of currency risks to the maximum possible extent; and (c) a reasonable return, as far as possible, on the investments of the envisaged ECF (investments shall be subject to the scrutiny of the Assembly and the Council, based on the recommendations of the Finance Committee);
- Basic principles concerning the investment of the assets of the ECF should be set out, concerning, *inter alia*, (a) the currency in which the assets of the envisaged ECF should be held; (b) the type of investment that should be preferred; (c) any limit applicable to any type of investment or to any investment with a single bank or other provider of investment services;
- The Finance Committee shall be entrusted with the task of regularly advising ISA and/or the officer responsible for the management of the ECF in general as well as specific investment issues.

A final and equally crucial administrative-related aspect relates to ***disbursement.*** In accordance with its purpose, the ECF should be used to compensate entities that have suffered damages or have incurred losses of the type compensable. Disbursements should be effectuated according to guidelines of the Finance Committee to ensure the transparency of any action relating to the ECF.

The administrator of the ECF should be required to publish and disseminate an annual report to the Assembly on the operations of the ECF in the relevant period of time, with regard to the collection of monies, the administration of assets and the payment of compensation.

K. Insurance requirements

Insurance requirements go well beyond the question whether and under what terms an ECF should be established, as they are directly linked to the legal regime governing contractors' liability and compensation for damage caused in connection with their activities in the Area.

The lack of legal uniformity in this particular field, combined with the relative small number of operators and with the lack of full understanding surrounding the potential risks that are intrinsically related to activities that are carried out under extreme conditions may make it difficult for the insurance market to adapt existing products or come up with tailor-made ones, at least in the early stages. However, based on available insurance products in extractive industries and global insurance markets, it is not excluded that insurance could be obtained that is compensatory in nature and covers a contractor for liabilities arising from environmental damage resulting from its activities in the Area.

The Draft Exploitation Regulations contain a requirement for contractors and, if applicable, subcontractors to "*obtain and maintain, in full force and effect, insurance with financially sound insurers satisfactory to ISA*". It is also provided that the relevant policies shall be "*of such types, on such terms and in such amounts in accordance with applicable international maritime practice*".

This is a crucial requirement which lies in the fact that whichever entity is entitled to compensation may be able to rely on the

funds provided by the insurer of any given contractor in all applicable circumstances, thus increasing the chances of a full compensation.

As far as the proposed ECF is concerned, compulsory insurance will render less frequent the circumstances under which a recourse to the ECF would be needed and, as a consequence, will increase the efficiency and viability of the system overall. If damage to the marine environment can be compensated by the liable contractor's insurer in full, there will be no need to seek compensation from the envisaged ECF.

The opportunity, which is also suggested in the Draft Exploitation Regulations, to "*include ISA as an additional assured*" would make it possible for ISA to establish a direct relationship with the insurer and thereby facilitate the recovery of any damage to which ISA itself may be entitled.

The existence of an insurance requirement is relevant for the purposes of the present discussion insofar as the kind of damage which is in principle intended to be compensated by the ECF is also covered under the applicable insurance policy, which is reasonably likely but not certain at this stage.

Ruling out the compulsory nature of insurance coverage only because the market is not ready would not be advisable as this would automatically impact the ability of contractors to live up to their obligation to compensate and, as a consequence, enlarge the exposure of the ECF. In fact, if insurance is compulsory, the chance of seeking compensation from the ECF will be lower because damaged entities will be compensated through the insurance coverage of the contractor according to the "pay to be paid" principle in the insurance context, which obliges the insured to first discharge its liability to the injured third party claimant before being indemnified by its insurer. Indemnity, in any event, will most likely have to be capped as insurers will not accept unlimited exposure. The lower the cap, the more likely the ECF will need to be called upon.

If the ECF is a last resort for the compensation of environmental damage, a standard on the scope of the insurance requirement under the Draft Exploitation Regulations, to clarify, *inter alia*, the scope and meaning of the term "appropriate insurance policies" may be necessary to ensure that any insurance coverage would also cover (to the maximum extent possible) any environmental damage caused by activities in the Area. This would assist in mitigating the necessity to have recourse to the ECF.

L. Dispute settlement

The refusal to provide compensation, in whole or in part, in relation to a specific instance of damage may give rise to a dispute between the entity seeking compensation and the ECF. Such a dispute may relate, for example, to the compensable nature of the damage claimed, to the existence of a causal link between exploitation and the damage or loss or to the quantification of such damage or loss.

The legal regime applicable to the Area features its own sub-set of rules and procedures concerning dispute settlement. Such rules are contained, in particular, in Section 5 of Part XI, in addition to Part XV and Annex VI to UNCLOS.

Although an in-depth analysis of the individual provisions that may be of relevance or interest in the instant case goes beyond the scope of the present study, it is important to highlight the fact that a range of disputes related to the ECF will fall under the jurisdiction of the SDC. Two sub-paragraphs of article 187 of UNCLOS on the jurisdiction of the SDC are particularly relevant should disputes

arise in relation to the payment of compensation from the ECF, for example if the compensation falls short of covering the full amount of damage.

According to article 187(b) of UNCLOS, the SDC shall have jurisdiction in *"(b) disputes between a State Party and ISA concerning:*

> *(i) acts or omissions of ISA or of a State Party alleged to be in violation of this Part or the Annexes relating thereto or of rules, regulations and procedures of ISA adopted in accordance therewith".*

According to article 187(e) of UNCLOS, the SDC shall have jurisdiction with respect to:

> *"(e) disputes between ISA and a State Party, a state enterprise or a natural or juridical person sponsored by a State Party as provided for in article 153, paragraph 2(b), where it is alleged that ISA has incurred liability as provided in Annex III, article 22".*

The view is taken here that the limitation on jurisdiction with regard to decisions of ISA pursuant to Article 189 of UNCLOS would not be applicable as the dispute would concern claims for damages to be paid or other remedy to be given to the party concerned for the failure of the other party to comply with its contractual obligations or its obligations under UNCLOS.

If an award is rendered by the SDC in favour of ISA as the administrator of the ECF against a liable contractor (either State, State enterprise or private entity), the enforcement and recognition of that award will have to be instituted in a domestic court where that contractor has commercial assets. UNCLOS provides, in that regard, that decisions of the SDC are *"enforceable in the territories of State Parties in the same manner as judgments or orders of the highest court of the State Party in whose territory the enforcement is sought"*.

A number of disputes involving the ECF may fall outside the SDC's jurisdiction, such as disputes involving a non-Party to UNCLOS or non-State actors. As noted above, domestic courts may have a role under article 235, as noted by the SDC. The question of which national or international, judicial or arbitral, forum to consider such disputes would, however, require further consideration.

VII. CONCLUSIONS

The present study, in light of the international practice concerning environmental compensation funds, advances a number of options and suggestions for the establishment and modalities of an ECF in the context of exploitation of mineral resources in the Area. These options and suggestions, which include the following, are gounded in, *inter alia*, the need to ensure the viability and sustainability of the ECF:

1. ***Liability and exclusions:*** it is suggested that compensation should only be available from the ECF with a view to fill the liability gap identified by the SDC of ITLOS in its 2011 Advisory Opinion, and no exclusions should apply.

2. ***Compensable damage:*** it is suggested that compensable damage include measures to prevent, limit or remediate damage to the Area and the marine environment, as well as measures of restoration and rehabilitation of the Area and the marine environment. It is however suggested that personal injury and economic loss be excluded to ensure the sustainability of the ECF. Consideration could be given to the possibility of extending the geographic scope of application of the ECF also to damage suffered in the high seas and in areas under the national jurisdiction or sovereignty of coastal States.

3. ***Entities eligible:*** entities eligible to seek compensation from the ECF would vary depending on the geographic location of such damage and may include the ISA on behalf of States Parties to UNCLOS, States Parties themselves, and affected coastal States.

4. ***Contributing entities:*** in addition to the ISA, it is suggested that entities called upon to contribute to the ECF include the contractors operating in the Area as well as, in the initial phases of exploitation, sponsoring States on the basis of advances.

5. ***Amount of compensation:*** it is suggested that the amount of compensation recoverable from the ECF should take into account the actual cost incurred or to be incurred for the preventation, limitation or remediation, as well as restoration or rehabilitation of the Area and damaged marine environment. Such costs shall be reasonable, justified and based on best available scientific evidence and, in the case of restoration and rehabilitation measures, offer a reasonable prospect of success.

6. ***Compensation cap:*** in light of the residual nature of the ECF, it is suggested that its exposure should be limited and a compensation cap per individual accident or series of accidents be introduced and reviewed periodically.

7. ***Size of the ECF:*** the minimum size of the ECF could be calculated every calendar year. Bearing in mind the number of active contractors, an estimate of the possible damages covered by the ECF should be done, based on:

a) the estimated costs of prevention, restoration and rehabilitation measures;

b) an estimation of the risk of damage happening in any given year; and

c) the compensation cap in respect of each individual accident.

8. ***Parameters for calculating the contributions to the ECF:*** it is suggested that contractors could be required to contribute from the moment at which commercial production starts, bearing in mind that they may not have the required liquidity at the prior initial stages of exploitation. The calculation of the amount that contributing entities should contribute to the ECF will have to be a function of its intended minimum size and, in turn, of the maximum compensation available, if any. An option could be to require contractors to pay a fixed minimum contribution as a temporary (transitional) measure, until the initial threshold of the ECF has been met by a mix of contributions from the sources outlined in the Draft Exploitation Regulations, including from sponsoring States as suggested in 4) above, to ensure the workability of the system, after which an annual levy based on the value of extracted minerals may be preferable.

9. ***Administration of the ECF:*** it is suggested that the ECF should not be established as an entity having a separate international legal personality.

10. **Modalities of access to the ECF:** it is suggested that entities seeking compensation complete a written submission with a dedicated fund focal point which should also carry out a preliminary assessment of eligibility and also serve as a source of information. It is suggested that rules, regulations or procedures be developed regarding the modalities of access (see below).

11. ***Standard of proof:*** it is suggested that existing international practices in the context of other compensation funds be followed with regard to the information and evidence to be submitted as part of a submission.

12. ***Insurance requirements:*** while separate from the ECF, insurance requirements will play a key role in the overall working and viability of the ECF as a residual mechanism for compensation purposes. It is therefore suggested that a requirement for contractors to obtain and maintain insurance and should apply.

In addition to the basic framework providing for the establishment of the ECF and its purpose set out in the exploitation reguations to be adopted, it is suggested that additional rules, regulations or procedures be developed to address a number of aspects pertaining to the functioning of the ECF. In particular, it is suggested that the following be developed:

a) Rules, regulations or procedures, to be developed by the Finance Committee, governing the modalities of access to the ECF, defining how to present a submission to the ECF, setting out how a decision is reached on the admissibility of such a submission as well as all intermediate steps (including, for instance, the provision for consultations with the submitting entity) and the disbursement phase would be required. A useful example could be represented, for this purpose, by the content of the Claims Manual of the IOPC Funds referred to throughout this study;

b) Standard or guidelines, to be developed by the LTC, addressing the methods for the evaluation and quantification of damage to the Area and the marine environment, including the standard of proof; and

c) Rules, regulations or procedures, to be developed by the Finance Committee, addressing the modalities of administration of the ECF.

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ANNEX I: TABLE OF COMPARISON OF EXISTING INTERNATIONAL FUNDS REVIEWED

Provision	1992 (IOPC) FUND	SUPPLEMENTARY FUND TO THE 1992 FUND	HNS FUND	CONVENTION ON SUPPLEMENTARY COMPENSATION FOR NUCLEAR DAMAGE (CSC)	UN COMPENSATION FUND	BASEL PROTOCOL (Enlarged Technical Cooperation Trust Fund)
Compensable damage	Pollution damage, including clean-up and preventive measures, property damage, consequential loss, pure economic loss, environmental damage (economic loss as a consequence of impairment of the environment; costs of post-spill studies; costs of reinstatement measures limited to costs of reasonable measures of reinstatement actually undertaken or to be undertaken) (*article I, par. 2; article 3; Guidelines*).	Pollution damage, including clean-up and preventive measures, property damage, consequential loss, pure economic loss, environmental damage (economic loss as a consequence of impairment of the environment; costs of post-spill studies; costs of reinstatement measures limited to costs of reasonable measures of reinstatement actually undertaken or to be undertaken) (*article 1, par.6; article 3; Guidelines*).	Damage, including loss of life or personal injury, loss of or damage to property, loss or damage by contamination of the environment (compensation for impairment of the environment limited to costs of reasonable measures), costs of preventive measures (*article 1, par. 6; article 3*).	Nuclear damage, including loss of life or personal injury, loss of or damage to property and economic loss arising therefrom; costs of measures of reinstatement of the impaired environment; loss of income deriving from an economic interest in the use of the environment; costs of preventive measures; further loss or damage caused by such measures and any other economic loss (*article I, letter f*).	Direct environmental damage and depletion of natural resources, including abatement and prevention of environmental damage, reasonable measures to clean and restore the environment, reasonable monitoring and assessment of the environmental damage, reasonable monitoring of public health and performing screenings and depletion of or damage to natural resources (par. 35, Governing *Council Decision 7*).	Loss of life or personal injury, loss or damage to property, loss of income directly deriving from an economic interest in any use of the environment, costs of measures of reinstatement of the impaired environment, when damage arises or results from hazardous properties of the wastes involved in the transboundary movement and disposal of hazardous wastes and other wastes (*article 2, par. 2, letter(c)*).

Provision	1992 (IOPC) FUND	SUPPLEMENTARY FUND TO THE 1992 FUND	HNS FUND	CONVENTION ON SUPPLEMENTARY COMPENSATION FOR NUCLEAR DAMAGE (CSC)	UN COMPENSATION FUND	BASEL PROTOCOL (Enlarged Technical Cooperation Trust Fund)
Liability and exclusions	Liable when: (a) the shipowner is not liable for the damage according to the 1992 CLC; (b) the liable shipowner is unable to meet its compensation obligations in full; (c) damage exceeds the shipowner's liability as calculated by the 1992 CLC. Exclusions (no liability of the Fund): (a) when the damage results from an act of war, hostilities, civil war or insurrection; (b) when it cannot be proven that the damage resulted from an incident involving one or more ships (*article 4*).	The Fund intervenes when the person suffering pollution damage has been unable to obtain full and adequate compensation from the shipowner and the 1992 Fund *(articles 4 and 5*).	Liable when: (a) the shipowner is not liable for the damage; (b) the liable shipowner is unable to meet its compensation obligations in full; (c) damage exceeds the shipowner's liability as calculated by UNCLOS. Exclusions (no liability of the Fund): (a) when the damage results from an act of war, hostilities, civil war or insurrection; (b) when it cannot be proven that the damage resulted from an incident involving one or more ships (*article 14*).	Contracting States are required to make public funds available that will operate as an international second tier of compensation (*article III*).	Liability of Iraq recognized by a number of resolutions of the UN Security Council (*article n/a).*	Compensation for damage to and reinstatement of the environment up to the limits provided for in the Protocol, where such compensation and reinstatement is not adequate under the Procotol, i.e.: 1. The notifier (exporter or importer) or disposer is exempt from liability under Article 4.5 of the Protocol, because the damage was: (a) The result of an act of armed conflict, hostilities, civil war or insurrection; (b) The result of a natural phenomenon of exceptional, inevitable, unforeseeable and irresistible character; (c) Wholly the result of compliance with a compulsory measure of a public authority of the States where the damage occurred; (d) Wholly the result of the wrongful intentional conduct of a third party, including the person who suffered the damage.

Provision	1992 (IOPC) FUND	SUPPLEMENTARY FUND TO THE 1992 FUND	HNS FUND	CONVENTION ON SUPPLEMENTARY COMPENSATION FOR NUCLEAR DAMAGE (CSC)	UN COMPENSATION FUND	BASEL PROTOCOL (Enlarged Technical Cooperation Trust Fund)
Eligible entities	Person suffering pollution damage (i.e. individuals, partnerships, public bodies, private bodies, including States and any of their constituent subdivisions) *(article I, par. 4 1992 Convention)*.	Person suffering pollution damage (i.e. individuals, partnerships, public bodies, private bodies, including States and any of their constituent subdivisions) (*article I, par. 4 1992 Convention*).	Person suffering damage (i.e. individuals, partnerships, public bodies, private bodies, including States and any of their constituent subdivisions) (*article 1, par. 2; article 14*).	Persons suffering damage (*article X, par. 2*).	Individuals, Governments, international organizations, corporations, legal entities, public sector enterprises (*article n/a*).	Persons suffering the damage (*article 3, par. 7, letter(a)*).
Compensation cap	SDR 203 million (*article 4, par. 4*).	SDR 750 million (*article 4, par. 2*).	SDR 250 million (*article 14, par. 5*).	No cap applicable (*article n/a*).	No cap applicable (article n/a).	The aggregate amount payable for compensation in respect of any one incident is limited by applying *mutatis mutandis* paragraph 2 of Annex B to the Protocol (*Interim Guidelines*).
Contributing entities	Any person who has received, in the territory of such State after carriage by sea, more than 150,000 tons of contributing oil (article 10).	Same as per the 1992 Fund, but a minimum of 1 million tons of contributing oil is to be deemed per contracting State (article 14).	Any person, in each State party, that has been a receiver of contributing cargo (for the general account) and of a specific substance (for the separate accounts) (articles 18 and 19).	Funds are public funds made available by contracting States (articles III and IV).	Iraq's Government (article n/a).	Parties to the Basel Convention and its Protocol

Provision	1992 (IOPC) FUND	SUPPLEMENTARY FUND TO THE 1992 FUND	HNS FUND	CONVENTION ON SUPPLEMENTARY COMPENSATION FOR NUCLEAR DAMAGE (CSC)	UN COMPENSATION FUND	BASEL PROTOCOL (Enlarged Technical Cooperation Trust Fund)
Parameters for contribution	Tonnage of contributing oil, meaning crude and fuel oil, received in total by any person in respect of each contracting State (*article 10; article 1, par. 3*).	Tonnage of contributing oil, meaning crude and fuel oil, received in total by any person in respect of each contracting State (article 14; article 1, *par. 3 1992 Fund*).	Amount of contributing cargo, meaning any bulk HNS which is carried by sea as cargo to a port or terminal in the territory of a State Party and discharged in that State (*articles 18 and 19; article 1, par. 10*).	Funds are to be calculated according to a formula based upon the installed nuclear capacity and the UN rates of assessment of contracting States (*article IV*).	Percentage of the proceeds generated by the export sales of Iraqi petroleum and petroleum products (*article n/a*).	Voluntary contributions
Size	Variable (*article n/a*).	Variable (*article n/a*).	Variable (*article n/a*).	Variable (*article n/a*).	No predetermined size (*article n/a*).	No predetermined size (*article n/a*).
Modalities of access	Claims to be filed in writing with relevant documents attached. Rights to compensation extinguish within 3 years from the date when the damage occurred. Claims Manual available (*see Claims Manual, article n/a*).	Claims to be filed in writing with relevant documents attached. Rights to compensation extinguish if they are extinguished under the 1992 Fund. Claims made against the 1992 Fund are regarded as made by the same claimant against the Supplementary Fund as well. Claims Manual available (*see Claims Manual, article n/a*).	If and when UNCLOS enters into force, it may work with the same modalities as per the IOPC Funds. Time bar for bringing an action extended up to 10 years (*article 37*).	Following the notification of a nuclear damage, the contracting State whose courts have jurisdiction shall request other contracting States to make available the public funds required (*article VII*).	Access to the UNC Fund regulated by a number of Security Council resolutions (*article n/a*).	Compensation can be provided upon request of a Contracting Party to the Protocol, which is a developing country or a country with economy in transition. A private person, institution or company shall apply with the Competent Authority of the developing country or the country with its economy in transition, where the damage was incurred. If considered adequate by the Competent Authority concerned, it shall submit the request to the secretariat. *(Interim Guidelines)*

Provision	1992 (IOPC) FUND	SUPPLEMENTARY FUND TO THE 1992 FUND	HNS FUND	CONVENTION ON SUPPLEMENTARY COMPENSATION FOR NUCLEAR DAMAGE (CSC)	UN COMPENSATION FUND	BASEL PROTOCOL (Enlarged Technical Cooperation Trust Fund)
Standard of proof	Proof only required with regard to the compensable nature of the damage suffered, its quantification and the existence of a link of causation between the damage and the oil spill (see *Claims Manual, article n/a*).	Proof only required with regard to the compensable nature of the damage suffered, its quantification and the existence of a link of causation between the damage and the oil spill (see *Claims Manual, article n/a*).	Proof only required with regard to the compensable nature of the damage suffered, its quantification and the existence of a link of causation between the damage and the oil spill (*article n/a*).	Availability of the funds depends on the notification of a nuclear damage. Standard of proof may be set in particular circumstances by the law of the contracting State whose courts have jurisdiction (*article n/a*).	Proof required with regard to the compensable nature of the environmental damage and the existence of a link of causation between the damage and the unlawful occupation of Kuwait.	*Each item of compensation should be substantiated by an invoice or other relevant documentation such as work sheets, explanatory notes, accounts and photographs. It is the responsibility of the applicant to submit exhaustive supportive documentation. (Interim Guidelines)*
Modality of administration	It is an intergovernmental organization with legal personality. Main governing body is the Assembly. The Executive Committee takes policy decisions concerning the admissibility of claims. There is a Secretariat headed by a Director (*article 16 and following*).	It is an intergovernmental organization with legal personality. Main governing body is the Assembly. There is a Secretariat (headed by a Director) shared with the 1992 Fund (*article 16 and following*).	It is an intergovernmental organization with legal personality. Main governing body is the Assembly, empowered to establish a Committee on Claims for Compensation. There is a Secretariat headed by a Director (*article 24*).	Not applicable since no autonomous fund is created (article n/a).	Governing Council establishes the criteria for the compensability of claims, the rules and procedures for processing the claims, the guidelines for the administration and financing of the UNC Fund and the procedures for the payment of compensation. Panels of Commissioners had to verify and evaluate claims. UNCC has a Secretariat headed by an Executive Secretary (*article n/a*).	Secretariat of the Basel Convention administers the funds *(decision V/32).*

Provision	1992 (IOPC) FUND	SUPPLEMENTARY FUND TO THE 1992 FUND	HNS FUND	CONVENTION ON SUPPLEMENTARY COMPENSATION FOR NUCLEAR DAMAGE (CSC)	UN COMPENSATION FUND	BASEL PROTOCOL (Enlarged Technical Cooperation Trust Fund)
Insurance requirements	Shipowners have to mantain insurance in the sums corresponding to the limits of liability set by the 1992 CLC (*article VII 1992 Convention*).	Shipowners have to mantain insurance in the sums corresponding to the limits of liability set by the 1992 CLC (*article VII 1992 Convention*).	Shipowners have to mantain insurance in the sums corresponding to the limits of liability set by UNCLOS (*article 12*).	Operators are to mantain insurance so as to cover the liability they may incur (*article 5*).	Not applicable.	Liable persons are to maintain insurance covering their liability *(article 14)*.

Please note that the wording used in this table is a summary only and does not reflect the actual text of the relevant provisions.

ANNEX II: TABLE OF COMPARISON OF NATIONAL FUNDS REVIEWED

	USA	USA
ECF	**Comprehensive Environmental Response, Compensation, and Liability Act (Superfund Special Accounts) (on land)**	**The Oil Spill Liability Trust Fund (Offshore Oil & Gas)**
Compensable damage	• clean up uncontrolled or abandoned hazardous-waste sites and accidents, spills; • other emergency releases of pollutants and contaminants into the environment; • all the response activities, including but not limited to the investigation, studies and analysis that inform the appropriate remedy decisions; • enforcement activities; and • post-construction monitoring.	The Fund has two major components: • the Emergency Fund is available to respond to oil discharges and natural resource damage assessments; and • the remaining Principal Fund balance is used to pay claims and to fund appropriations by Congress.
Eligible entity	The Environmental Protection Agency (EPA) is the only eligible entity; when there is no viable responsible party, the Superfund gives the EPA the funds and authority to clean up contaminated sites.	Eligible entities include: • the United States Government; • other Federal, State, Local and Indian tribal government agencies; • the Commonwealth of Puerto Rico, Guam, American Samoa, the U.S. Virgin Islands, the Commonwealth of the Northern Marianas Islands and any other territory or possession of the United States; • certain foreign claimants, in accordance with Section 1007 of the Oil Pollution Act; • individuals, corporations and government entities; and • contractors who establish a defence to liability.
Standard of proof	The standard of proof is not addressed in Title 42 of U.S Code as it is currently under review. The EPA is responsible for 'discovering' Superfund sites; often these are reported by residents and local, state, tribal or federal agencies.	Claimants must establish that the oil spill impacted or threatened navigable waters and that their claim has first been presented to the responsible party. Information, documentation and evidence must be provided to the National Pollution Funds Center (NPFC) to support the claim.

	USA	USA
Contributing entities & calculation	Funded with money received from potentially responsible parties (PRP) (calculation is negotiated and reached through settlement).	The Fund is funded through: • barrel tax on domestic and imported oil; • transfers from existing Funds and other legacy pollution Funds; • interest; • cost recoveries; and • fines & penalties.
Financial obligations & administration (including access)	The Superfund statute authorises EPA to hold and use funds received in settlement with a PRP to carry out that settlement agreement. The special account is established as a sub-account within the Superfund Trust Fund – a "special" account.	Claims are processed and managed by the NPFC. Expenditures from the Fund for any one oil pollution incident are limited to $1 billion or the balance of the Fund, whichever is less.
Insurance	The legislation does not establish compulsory insurance; however, if the PRP has insurance depending on the scope of coverage, the EPA may establish the insurer as a defendant in recovery proceedings.	Claimants are not required to have insurance for removal costs or damages. If the Claimants have insurance that may cover the removal cost or damage, they are not required to use it, but must report that they have it.
Dispute settlement	The EPA can take a PRP to court to affirm liability and recover costs associated with clean-up. Appeals can made to the Federal Court within 30 days. Additionally, defences to liability include: (1) an act of God; (2) an act of war; and (3) an act or omission of a third party other than an employee or agent of the defendant.	A Claimant can make a request for reconsideration of its claim within 60 days. This is done via an internal agency appeal process. This could include a request to review a decision by the Fund administrator not to pay out, or to only pay out a certain amount.

	Western Australia	Philippines
ECF	**Mining Rehabilitation Fund (on-land)**	**Contingent Liability and Rehabilitation Fund (on-land mining) (CLRF)**
Compensable damage	Money in the Fund is available to rehabilitate abandoned mines where the tenement holder/operator has failed to meet rehabilitation obligations and efforts to recover funds from the holder/operator have been unsuccessful.	The CLRF comprises the following three Funds: • Mining Rehabilitation Fund (MRF); • Mine Waste and Tailings (MWT) Reserve Fund; and • Final Mine Rehabilitation and Decommissioning Fund (FMRDF). The MRF can be used for physical and social rehabilitation of areas and communities affected by mining activities and for research on the social, technical and preventive aspects of rehabilitation The MWT Reserve Fund shall be used for research projects duly approved by the CLRF Steering Committee.
Eligible entity	The Western Australian Government is the only eligible entity.	A Contractor is the only eligible entity in relation to the MRF Fund. The eligible entity for the remaining two Funds appears to be the Government.
Standard of proof	CEO of the Department of Mines may declare a site 'abandoned' by notice in the *Gazette* following advice from the Mining Rehabilitation Advisory Panel. The CEO must be satisfied that (i) mining operations have been carried out on that land; and (ii) those mining operations have ceased.	The standard of proof could not be identified in the Administrative Order.
Contributing entities & calculation	All tenement holders operating on Mining Act 1978 tenure (with the exception of tenements covered by State Agreements) are required to report disturbance data and contribute annually to the Fund. Tenements with a rehabilitation liability estimate at or below a threshold of $50,000 must report disturbance data but are not required to pay into the Fund.	Contractors and permit holders must deposit into a Government bank an amount determined by the MRF Committee of not less than fifty thousand pesos. The Contractor/Permit Holder shall set up a Rehabilitation Cash Fund (RCF) as part of the MRF, and an amount equivalent to 10% of the total amount needed to implement its Environmental Protection and Enhancement Programme shall be deposited into the Fund. MWT fees are collected biannually from each operating contractor and permit holder based on the amount of mine waste and mill tailings it generated for the said period. The FMRDF must be established by each operating contractor or permit holder to ensure that the full cost of the approved FMRDF is accrued before the end of the operating life of the mine.

	Western Australia	Philippines
Financial obligations & administration (including access)	As the MRF is a special purpose account under the Financial Management Act 2006, funds must be spent in accordance with the purposes set out in the Mining Rehabilitation Fund Act 2012. Funds can be invested.	Withdrawal from the MRF shall be made by the Contractor/ Permit Holder only with the written instruction to the bank issued by the MRF Committee authorising the Contractor/Permit Holder to withdraw the amount from the MRF. The amount to be withdrawn shall be approved by the MRF Committee. The financial obligations of the MRF are not set out in the Administrative Order. The Contingent Liability and Rehabilitation Fund (CLRF) Steering Committee is responsible for the administration of the MWT Fees; however, access and administration of the Fund is not set out in the Administrative Order. As the FMRDF is established and controlled by the Contractor, it is not subject to administrative or financial obligations.
Insurance	There is no statutory requirement for insurance.	A compulsory insurance requirement could not be identified in the Administrative Order.
Dispute settlement	A person who is dissatisfied with a decision of the CEO on an objection may apply to the State Administrative Tribunal for a review of the decision. Amounts disbursed from the Fund are recoverable from responsible parties by the CEO in a court of competent jurisdiction as a debt due to the State.	A decision of the CLRF Committee shall be final and executory unless appealed to the Secretary within 30 calendar days from receipt of the decision.

	Queensland (Australia)	Victoria (Australia)
ECF	**Scheme Fund under the Mineral and Energy Resources (Financial Provisioning) Act 2018**	**Declared Mine Fund established by the Mineral Resources (Sustainable Development) Amendment Act 2019**
Compensable damage	• prevention and minimisation of environmental harm; • rehabilitating or restoring the environment; and • securing compliance with an authority or small-scale mining tenure.	Funds from the Declared Mine Fund will be: • used to meet the ongoing costs of managing declared mine land post mine closure; • used to compensate the cost of all or any part of the monitoring, maintenance and rehabilitation of registered mine land; and • used to cover the cost of unforeseen events in relation to registered mine land.

	Queensland (Australia)	Victoria (Australia)
Eligible entity	The Queensland Government is the only eligible entity.	The Victorian Government is the eligible entity.
Standard of proof	The Scheme Manager (appointed by the Governor in Council) must decide to authorise or not to authorise payment of the costs and expenses requested, and he/she must consider whether such authorisation would adversely affect the financial viability of the Fund. A standard of proof is not required.	Funds may be paid out of the Declared Mine Fund as authorised by the Minister. A standard of proof is not required. The Regulations, however, are yet to be drafted and approved by Parliament.
Contributing entities & calculation	Mining companies submit contributions into a 'pooled scheme Fund' based on the estimated rehabilitation cost (ERC) and risk category allocated to an environmental authority (EA) by the scheme manager. EA holders in the high-risk category and holders of small-scale mining tenures have to provide the state with surety in the form of a bank guarantee, insurance bond or cash. The percentages for each risk category are: • Very low: 0.5% • Low: 1.0% • Moderate: 2.75%	Funding comes from: • money from Parliament for use in the Fund; • money received from investing the Fund; • payments received from former declared mine land licensees and declared mine land holders; and • rehabilitation bonds that may be paid into the Fund.
Financial obligations & administration (including access)	• the scheme manager has the function of setting investment objectives for the scheme Fund and establishing investment strategies and policies to achieve the objectives; • amounts received for the Fund must be deposited in a departmental financial institution; and • the Fund's maximum threshold is $450 million.	The financial obligations of the Fund could not be identified in the legislation. However, given that payments into the Fund include returns on invested funds, it is likely this is possible.
Insurance	If the scheme manager allocates a Contractor's risk category as 'high', additional surety is required; this may take the form of an insurance bond. There is not however, a compulsory requirement for insurance otherwise.	Compulsory public liability insurance is required.
Dispute settlement	A dissatisfied person may apply for review under the Judicial Review Act 1991 of the decisions of the scheme manager regarding the risk category allocation.	The legislation is silent on dispute settlement.

	Laos	Northern Territory (Australia)
ECF	**Environmental Protection Fund under the Mineral Exploration and Production Agreement (MEPA) between the Government of Laos and Phu Bia Mining.**	**Mining Remediation Fund (on-land mining)**
Compensable damage	The Fund provides environmental rehabilitation in accordance with the Phu Kham Environmental and Social Management and Monitoring Plan (ESMMP).	• historical mining impacts; • to ensure current and future exploration and mining; and • to ensure extractive activities are appropriately regulated to minimise environmental damage.
Eligible entity	The Government of Laos is the only eligible entity.	The legislation is silent on dispute settlement.
Standard of proof	The standard of proof could not be identified in the Agreement.	The standard of proof could not be identified in the legislation.
Contributing entities & calculation	The Fund is Funded by Phu Bia Mining Limited at the rate of US$1/ounce of gold and US$1/t of copper sold. There is also a requirement for Phu Bia Mining to provide any additional funds required to complete agreed rehabilitation at completion and closure of the operation.	Non-refundable annual levy of 1% on the total calculated rehabilitation cost applied to each mining operation authorised under the MMA (not defined). To offset the impact to industry, a discount of 10% in the total security amount payable by operators has been applied.
Financial obligations & administration (including access)	The financial obligations and administration could not be identified in the Agreement.	Financial obligations of the Fund could not be determined from the legislation. Access to the Fund is permitted for the following: • the identification of environmental harm caused by unsecured mining activities; • the assessment of the risk of that harm; • investigations and scientific studies relating to that harm; • the preparation of remediation plans necessary because of that harm; • carrying out both long-term and short-term remedial works required because of that harm; and • engaging persons with appropriate expertise to carry out other activities in relation to that harm.
Insurance	It could not be determined from publicly available information whether the Agreement mandates insurance.	No statutory requirement for insurance, but insurance is a form of financial security.
Dispute settlement	The legislation is silent on dispute settlement.	The legislation is silent on dispute settlement.

	South Australia	South Australia
ECF	**Environment Protection Fund (Offshore Oil & Gas)**	**Environment Protection Fund (Offshore Oil & Gas)** **Extractive Areas Rehabilitation Fund (EAR)**
Compensable damage	The cost of action taken to deal with an environmental emergency or its effects.	• The rehabilitation of land disturbed by mining operations.
Eligible entity	The South Australian Government is the only eligible entity.	The South Australian Government is usually the eligible entity; in some circumstances, contractors are also eligible.
Standard of proof	The Act provides that the Fund may be applied as approved by the Minister for the purposes set out in the legislation. A standard of proof is not required.	The Act provides that the Fund may be applied as approved by the Minister for the purposes set out in the legislation. A standard of proof is not required.
Contributing entities & calculation	Prescribed percentages of waste levies and licence fees are paid into the EP Fund (not defined) under section 8 of the Environment Protection Regulations 2009.	The EAR Fund is contributed to from royalties received from extractive minerals. The prescribed rate is 25 cents per tonne of extractive mineral.
Financial obligations & administration (including access)	The Fund may be applied for: • payments in connection with a financial assurance or an environment performance agreement; • an environmental emergency or its effects; • environmental education and training programmes; • any investigations, research, pilot programmes or other projects relating to the environment; or • the costs of administration of the Act. The ISA, with the approval of the Treasurer, may invest money in the Fund that is not immediately required for the purposes of the Fund.	EAR Funds may also be accessed for: • prevention of damage to the environment from mining operations; and • the promotion of research into methods of mining engineering where the environmental damage is reduced. The total expenditure in a single financial year must not exceed an amount equal to 4 cents per tonne for each tonne of extractive minerals on which royalty is payable into the Fund for the financial year preceding that year.
Insurance	No statutory requirement for insurance, but it is a form of financial security.	No statutory requirement for insurance, but it is a form of financial security.
Dispute settlement	The legislation is silent on dispute settlement.	An internal appeals regime is provided for within the Department of Primary Industries and Resources if the applicant is dissatisfied with a decision of the Project Assessment Panel made up of an independent Chairperson and various other government nominees.

	Canada	United Kingdom
ECF	**Ship-source Oil Pollution Fund (SOPF) (Offshore Oil & Gas)**	**The Offshore Pollution Liability Agreement (OPOL) is a voluntary oil pollution compensation scheme**
Compensable damage	Oil pollution damage or anticipated damage.	This compensation scheme provides guarantees of payment for claims up to US$125 million for all members of OPOL to compensate and reimburse any person who sustains pollution damage and any public authority which incurs costs for taking remedial measures as a result of a discharge of oil from any offshore facility.
Eligible entity	Any person in Canada including private corporations, municipalities, provinces or the Crown.	Eligible entities include: • governments, public bodies or authorities in respect of reasonable remedial measures taken to prevent, mitigate or eliminate pollution damage; and • anyone damaged by pollution from the oil spill who has suffered direct loss or damage caused by contamination.
Standard of proof	Successful claims must be well-documented, and any damages claimed must have a causal link to the oil pollution incident in question, which must be caused by a ship.	Claims must be reasonable, quantifiable and justifiable. Claimants shall be required to forward to the operator all such information, documents and testimony as are reasonably required in connection with the investigation of any claim.
Contributing entities & calculation	The contributors to the regime are the oil shippers and receivers in Canada. Contributors have not paid contributions since 1976 as the Fund is fully capitalised. The Minister of Transport had statutory power to impose a levy of 52.38 cents per metric tonne of contributing oil during the fiscal year 2018-2019. The levy is indexed annually to the consumer price index. The Fund according to the last annual report is worth $408,035,420.	Membership is voluntary. Under the OPOL Agreement, member operators accept strict liability for pollution damage and remedial measures, up to US$120 million per incident and US $240 million in the annual aggregate. This money is apportioned equally in the sums of $60 million for pollution damage and $60 million for remedial measures.
Financial obligations & administration (including access)	It is a Fund of last resort - the regime is based upon the 'polluter pays' principle. Since 13 December 2018, the SOPF no longer has any per-occurrence limit of liability.	The legislation is silent in respect of administration. Claims are made directly against the party concerned and must be filed within one year of the date of the incident which resulted in the escape or discharge of oil.

	Canada	United Kingdom
Insurance	Environmental damage insurance is compulsory for private corporations.	Members must provide evidence of financial responsibility which may include insurance.
Dispute settlement	An unsatisfied claimant may, within 60 days after receiving an offer of compensation or a notification of disallowance, appeal its adequacy to the Federal Court.	All disputes arising out of or in connection with the OPOL Agreement shall be finally settled under the Rules of Arbitration of the ICC by one or more arbitrators appointed.

	Finland
ECF	**Finnish Oil Pollution Compensation Fund**
Compensable damage	The Fund guarantees full compensation for environmental damage, including the costs of measures taken to prevent or limit the damage and to restore the environment to its previous state in cases where those liable for compensation are insolvent, or the liable party cannot be identified. The Fund usually reimburses 50% to 90% of the acquisition costs of oil spill response vessels.
Eligible entity	Eligible entities include; • regional rescue services and municipalities are entitled to compensation from the Fund for expenses due to the acquisition of oil response equipment, the maintenance of oil spill prevention response preparedness and training; and • the state (Ministry of the Environment) may also be granted discretionary compensation for the acquisition costs of equipment and for the costs of maintaining response preparedness.
Standard of proof	The standard of proof could not be identified in the legislation.
Contributing entities & calculation	The Fund is financed by oil protection fees collected for oil that is imported or transferred through Finland and from money transferred from the State budget. The compensation paid annually from the Fund totals about EUR 10 million.
Financial obligations & administration (including access)	The financial obligations and administrative framework could not be identified.
Insurance	Environmental damage insurance is compulsory for private corporations.
Dispute settlement	A disputes settlement framework could not be identified.

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