



DISCUSSION PAPER

No. 4 / Enforcement and Liability Challenges for Environmental Regulation of Deep Seabed Mining

Enforcement and Liability Challenges for Environmental Regulation of Deep Seabed Mining

June 2016

Enforcement and Liability Challenges for Environmental Regulation of Deep Seabed Mining

This paper has been prepared by Neil Craik of the University of Waterloo for the International Seabed Authority.

The University of Waterloo owes no duties and accepts no liability toward any person except the International Seabed Authority arising out or in connection with this discussion paper.

This discussion paper may not be used or relied upon by any person other than the International Seabed Authority

The designations employed and the presentation of materials in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the International Seabed Authority concerning the legal status of any country or territory or of its authorities, or concerning the delimitation of its frontiers or maritime boundaries.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying or otherwise, without the prior permission of the copyright owner. Application for such permission, with a statement of purpose and the extent of the reproduction, should be addressed to the International Seabed Authority, 14-20 Port Royal Street, Kingston, Jamaica

Copyright © International Seabed Authority

International Seabed Authority
14-20 Port Royal Street
Kingston, Jamaica
JAMAICA
Tel: +1 876 -922 9105
Fax: +1 876 - 922 0195
<https://www.isa.org.jm/>

June 2016

DISCUSSION PAPER ON ENFORCEMENT AND LIABILITY IN THE DEEP SEABED MINING REGIME

Abstract

Deep seabed mining in the Area is transitioning from the exploration stage to exploitation stage, prompting the International Seabed Authority (ISA) to consider the development of rules for the assessment and ongoing environmental management of future operations. Environmental regulation in areas beyond national jurisdiction raises difficulty issues respecting enforcement of domestic and international rules and liability for wrongful acts. This paper considers a range of enforcement options available to the international community, and potential liability rules, in anticipation of the development of new exploitation regulations by the ISA.

This discussion paper has been prepared by Neil Craik, LL.B., LL.M., S.J.D., University of Waterloo, Canada. This discussion paper may not be used or relied upon by any person other than the International Seabed Authority

1. Introduction

This paper examines a range of regulatory options to aid in the enforcement of environmental impact assessment and associated rules developed to manage the risks of deep seabed mining exploitation. This paper also considers related rules of liability for wrongful acts in the event that the primary rules respecting assessment are breached.

The first part of this paper outlines the basic framework for the enforcement of international rules in the context of deep seabed mining in the Area, with a particular view to developing an understanding of the complex constellation of legal relations that are contemplated under this regime. Enforcement and liability are relational activities requiring careful consideration of the nature of the legal obligations, which maybe be structured by domestic and international regulations, as well as contracts, among the principal actors involved in, or affected by, deep seabed mining. The approach to enforcement and liability is not to treat these activities as a singular set of rules and processes, but rather as a toolbox, where the efficacy of the approach taken will depend upon the identity of the actors (the enforcer and the enforcee) and the nature of the legal rules that structure interactions between them.

Since this paper primarily addresses itself to environmental impact assessment (EIA) rules, the other preliminary consideration is that enforcement approaches will also be dependant upon the substance of these primary rules and processes, and their relationship to the wider scheme of approval and ongoing environmental management of deep seabed mining activities. This requires some necessary conjecture about what those rules might contain and how the EIA will relate to the broader scheme of approval and post-approval regulation. Enforcement and liability rules may also be structured to have more general application to breaches outside the strict confines of EIA rules. This is particularly the case for liability rules, which are most likely to be derived from more general rules of international law.¹ As a result, the analysis in this paper addresses itself to enforcement and liability in relation to EIA, but recognizes that these processes cannot be considered sensibly in isolation from broader enforcement and liability concerns.

It is common in international environmental law to distinguish between enforcement, on the one hand, and non-compliance mechanisms, on the other.² The former tends to speak to sanction based mechanisms that

¹ *United Nations Convention on the Law of the Sea*, 10 December 1982, 1833 UNTS 396, 21 ILM 1261, art. 235 (entered into force 16 November 1994) [UNCLOS].

² See, for example, M. Koskenniemi, "Breach of Treaty or Non-compliance? Reflections on the enforcement of the Montreal Protocol". (1992) 3(1) *Yearbook of International Environmental Law* 123.

seek to compel compliance, while the latter are more remedial in their orientation and tend to be directed towards identifying non-compliance without incriminating the non-complying behaviour and instead bringing the non-compliant state's behaviour back into conformity through facilitative means. Non-compliance procedures have become a prominent aspect of multi-lateral environmental agreements.³ In this paper, I consider the full range of tools available to promote and secure compliance with the environmental obligations under the deep seabed regime. While it is useful to draw a distinction between enforcement and non-compliance, the mechanisms themselves do not operate in isolation from one another and ought to be considered together as part of a coherent approach to compliance. Whereas enforcement focuses on compliance, liability directs itself to the legal consequences of wrongful acts; principally, but not exclusively, the availability of damages for harm. International and domestic law do, however recognize remedies beyond damages, which, in the interest of comprehensiveness, ought to be considered here.

2. Legal Context

The foundational structure of the deep sea mining regime is found in Part XI and Annex III of the *United Nations Convention on the Law of the Sea (UNCLOS)*,⁴ the *1994 Implementing Agreement*,⁵ and the collection of regulations adopted by the International Seabed Authority (Authority), referred to collectively as the *Mining Code*.⁶ The *Mining Code* currently consists of three sets of regulations respecting the exploration (and prospecting) stages of deep seabed mining, but it is contemplated that the exploitation stage will require further rules. There may also be subsidiary rules and guidelines, such as those developed by the Legal and

³ Discussed in Jan Klabbbers, "Compliance Procedures" in Bodansky, Brunnée and Hey, (eds.) *Oxford Handbook of International Environmental Law*. (New York: OUP, 2007) 995.

⁴ UNCLOS, *supra* n.1.

⁵ *1994 Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982*, ATS 32 / 33 ILM 1309 (1994), (entered into force 28 July 1996) [UN Treaty Series, Division for Oceans and Law of the Sea].

⁶ *Decision of the Council of the International Seabed Authority relating to amendments to the Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area and related matters*, ISBA Doc ISBA/19/C/17 (22 July 2013) [RPEN]; *Decision of the Assembly of the International Seabed Authority relating to Regulations on Prospecting and Exploration for Cobalt-rich Ferromanganese Crusts in the Area*, ISBA Doc ISBA/18/A/11 (22 October 2012); *Decision of the Assembly of the International Seabed Authority relating to Regulations on Prospecting and Exploration for Polymetallic Sulphides in the Area*, ISBA Doc ISBA/16/A/12/Rev.1 (15 November 2010).

Technical Commission of the Authority, which could influence the behaviour of key actors.⁷

The legal status of the Area as being the “common heritage of mankind” creates a legal structure that is in many ways *sui generis*.⁸ The fundamental implications of the common heritage status are that all states have a legal interest in the seabed and its resources, which cannot be the subject of sovereign claims by any state.⁹ Exploration and exploitation of seabed resources are contemplated under a system of international control whereby activities in the Area are controlled by the Authority on “behalf of mankind”.¹⁰

While the Authority has primary oversight over activities in the Area, the scheme contemplates that the exploration and exploitation activities are to be carried out by state or private entities. In order to qualify to carry out such activities, these entities are required to possess the nationality of, or be controlled by individuals who are nationals of, a state Party, which must in turn sponsor the entity.¹¹ The regime provides for a system of parallel exploitation, whereby commercial exploitation is carried out along side activities under by the Enterprise, an organ of the Authority that was created to exploit seabed resources, the benefit of which would accrue to all states. Activities carried out in the Area must be done pursuant to a work plan that is approved by the Council of the Authority and is in accordance with the requirements of the scheme, including specified technical and financial requirements, and is undertaken under the authority of a contract between the Authority and the entity.¹²

In light of the requirements for state sponsorship, the International Tribunal for the Law of the Sea was asked in 2011 to provide an advisory opinion on the legal responsibilities of sponsoring states and liability associated with failure to comply with those requirements. The key UNCLOS provisions governing the responsibility of sponsoring states were identified by the ITLOS as Articles 139(1), 153(4) and Annex III, Article 4(4), which when read together, require that the sponsoring state ensures that the entity carrying out activities in the Area does so in conformity with the requirements of the deep seabed mining regime, namely, Part XI, including Annexes III and IV, and the rules, regulations

⁷ Legal and Technical Commission, *Recommendations for the guidance of contractors for the assessment of the possible environmental impacts arising from exploration for marine mineral in the Area*. March 2013, ISBA/19/LTC/8.

⁸ UNCLOS, *supra* 1, Art. 136.

⁹ *Ibid*, Art. 137.

¹⁰ *Ibid*, Art. 153(1).

¹¹ *Ibid*, Art. 153(2).

¹² *Ibid*, Art. 153 (3), Annex III, Art. 3.

and procedures of the Authority.¹³ For purposes of this paper, the key findings of the ITLOS are as follows:

- a) The duty to ensure compliance is an obligation of due diligence.¹⁴ Consequently, the sponsoring state is required to take all reasonably appropriate measures to adopt domestic laws and regulations to effectively control persons under its jurisdiction.
- b) What will be considered sufficiently diligent will be impacted by the risk levels associated with the activity in questions, with riskier activities, such as exploitation activities, requiring a higher degree of oversight and care.¹⁵
- c) Due diligence requires both the adoption of laws and regulations and the taking of “administrative measures” for securing compliance. Securing compliance through contract (between an entity and the sponsoring state) does not meet the requirements of the *UNCLOS*, and would fail to provide a set of legal obligations that could be invoked by other interested parties.¹⁶
- d) Without seeking to define the full content of the due diligence obligation, it includes the direct obligations to adopt a precautionary approach, to use best environmental practices and to requirement the preparation of an EIA.¹⁷
- e) Due diligence obligations in the context of activities in the Area are not differentiated on the basis of development status.¹⁸
- f) Sponsoring states may be liable for damages that result from their failure to carry out their legal responsibilities, but states cannot be held strictly liability for damages, i.e. liability notwithstanding that the state has acted with due diligence.¹⁹

While not addressed in the Advisory Opinion, the Authority, which has legal obligations to protect the marine environment, can also be the subject of liability claims for any wrongful acts in the exercise of its powers and functions.²⁰

EIA is an independent primary obligation of the Sponsoring State under Article 204 of the *UNCLOS*, and is a specific requirement in relation to deep seabed mining. As noted, EIA is tied to the content of due diligence in the sense that failure to conduct an EIA is evidence of a lack of due

¹³ Seabed Disputes Chamber of the International Tribunal for the Law of the Sea (ITLOS), Case No. 17, *Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to Activities in the Area*, Advisory Opinion, (1 Feb. 2011), at para 100-105.

¹⁴ *Ibid*, para 110.

¹⁵ *Ibid*, para 117.

¹⁶ *Ibid*, para. 119.

¹⁷ *Ibid*, para 125 *et seq.*

¹⁸ *Ibid*, para. 158.

¹⁹ *Ibid*, para 189.

²⁰ *UNCLOS*, *supra* n.1, Annex III, Art. 22.

diligence. The order to assess whether a state has discharged its obligations in relation to EIA, deference will be given to the Sponsoring State in determining the appropriate content of the EIA,²¹ but the EIA will nevertheless need to comply to international legal requirements, including any requirements the Authority may dictate in its own regulations.

3. Accountability Relationships

Turning to the question of enforcement, there are five principal actors that are likely to have roles as either a regulator, a regulated entity or a regulatory beneficiary:

- a) *The Authority* – The Authority has extensive plenary authority to develop rules, regulations and process to manage deep seabed mining. In addition to its legislative role, the Authority has a central administrative role as an approval authority, though its power to accept or refuse plans of work for exploration (and presumably for exploitation).²² Once an activity has been approved, the Authority maintains an ongoing and direct regulatory role that is mediated through a contract with the entity carrying out the activity.²³ The UNCLOS also contemplates that the Authority will maintain an oversight role in relation to individual State Parties.²⁴ Article 22 of Annex III indicates that the Authority will be responsible for damages flowing from its wrongful acts in the exercise of its powers under the regime.²⁵
- b) *The Sponsoring State* – The sponsoring state, as discussed above, has broad due diligence responsibilities to ensure compliance with the deep seabed mining regime, including compliance with the contract within its legal system.²⁶ In this role, it must adopt adequate domestic laws and have in place adequate administrative measures to ensure compliance. Such domestic rules would include domestic EIA requirements that conform to international law, including a system that can assess the adequacy of the EIA, and provide for ongoing regulatory oversight post-approval. The Sponsoring state is also potentially subject to the oversight of the Authority in order to ensure that it is implementing its obligations in accordance with the

²¹ ITLOS, Case No. 17, *supra* n.13, para. 149.

²² UNCLOS, *supra* n.1, Art. 162(2)(j), Annex III, Art. 6.

²³ *Ibid*, Annex III, Art. 3(5).

²⁴ UNCLOS, *supra* n.1, Art. 185 (discussing suspension power).

²⁵ *Ibid*, Annex III, Art. 22.

²⁶ *Ibid*, Annex III, Art.4(4), UNCLOS, Art. 139.

requirements of the regime, including a sponsoring state's obligation to assist the Authority.²⁷

- c) *The Contractor* - The Contractor, as the primary regulated entity, is subject to a two-level regulatory framework. At the domestic level, the Contractor will be subject to the requirements of the legislation and administrative oversight of the sponsoring state(s). At the international level, the contractor will be subject to direct oversight by the Authority through the contract, which operates as a form of license, but contains reciprocal obligations. The contract has status in international law by virtue of the fact that one party is an international organization and the ITLOS has jurisdiction of disputes concerning its interpretation.²⁸
- d) *Other State Parties* - In light of the status of the Area as the common heritage of mankind, each state has a legal interest in the protection of the marine environment in and super adjacent to the Area. In order to secure these rights, a State Party may pursue legal remedies against the Authority and sponsoring states. Coastal states whose EEZs abut areas subject to mining activities may have specific rights in connection with transboundary harm.
- e) *Non-state actors* - There may be a range of non-state actors that seek to ensure compliance with domestic and international legal requirements, such as environmental groups or other resource users. In the case of other resource users who are detrimentally affected by deep seabed mining activities, there may also be claims for damages that flow from these losses.

With this basic configuration in mind we can contemplate a set of different legal relations between the primary actors in the deep seabed mining scheme, which are identified in Table A.

²⁷ *Ibid*, Art. 153(4).

²⁸ *Ibid*, Art. 187(c)

Table A

	Authority	Sponsoring State	Contractor	Affected state	Non-state Actors
Authority					
Sponsoring State					
Contractor					
Affected State					
Non-state Actors					

The legal relations matrix indicates nine relevant bilateral relationships, each of which will be governed by overlapping but different legal requirements that will affect who may enforce legal requirements, the type of enforcement mechanisms available and potential for legal remedies in the case of a breach of rules. For example, the relations between the sponsoring state and the contractor are likely to be governed by domestic law, but the adequacy of those laws and associated administrative mechanisms is an international obligation that the sponsoring state owes under UNCLOS, and which may be enforceable by the Authority or other State Parties. Relations between the Authority and

the Contractor will be governed by the contract itself, the legal authority of which the Contractor is required to accept.²⁹

Defining an affected state in the context of the deep seabed requires some further thought. Certainly coastal states who have jurisdiction over marine areas adjacent to the Area and whose interests may be impacted by deep seabed activities are recognized under the *UNCLOS* as having a distinct set of rights.³⁰ In addition, all State Parties, by virtue of the common heritage status of the deep seabed and the commons status of the super-adjacent marine environment, have rights that might best be described as *erga omnes inter partes*. Such rights may trigger an interest in enforcement and remedies even in the absence of specific harm or potential harm to the sovereign interests of the state. The rights of affected states could potentially be exercisable in international legal forums, particularly the ITLOS, and in domestic legal forums. The extent to which the *erga omnes* rights of affected states are the responsibility of the Authority (who administers the Area “on behalf of” all states) deserves consideration. Article 235(2) appears to have been interpreted so as to require sponsoring states to provide for legal recourse within its domestic legal system for compensation arising from damages to the marine environment caused by persons under the Sponsoring States jurisdiction.³¹

Finally, non-state actors are relevant to enforcement and liability considerations in a number of potential capacities. Institutionally, there is some precedence for non-state actors, particularly ENGOs, to play a direct or indirect role in compliance proceedings by instituting non-compliance proceedings,³² and participating in monitoring and reporting activities,³³ and some consideration may be given to whether such a role is desirable here. In addition, non-state actors have been an integral part of domestic environmental law compliance, including compliance with EIA requirements, through administrative proceedings, such as judicial review applications, to ensure that legal requirements are being respected. In relation to liability, there may be non-state actors whose commercial interests are affected by marine pollution activities that will seek legal recourse in domestic legal processes. The presence of an accountability relationship does not, however, mean that a particular party has legal standing to pursue a particular remedy.

²⁹ *Ibid*, Annex III, Art. 4(6).

³⁰ *Ibid*, Art. 142.

³¹ *UNCLOS*, *supra* n.1, Art 235(2); see also ITLOS, Case No. 17, *supra* n.13, para. 139-140.

³² See, for example, *Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus)*, 38 ILM (1998) 999.

³³ For example, the role of TRAFFIC under *the Convention on International Trade in Endangered Species of Wild Fauna and Flora (Washington)*, 993 UNTS 243 (1973).

4. Two-level Structure

The two-level structure of the deep sea-bed mining regime may have important implications for compliance matters as it may not always be clear whether an party with compliance concerns has recourse in domestic or international arenas. For example, concerns about the adequacy of an EIA may be raised by a NGO or a third state. These concerns could be raised in the context of a judicial review of the domestic EIA process or could perhaps be raised with the Authority as a failure to adhere to the requirements of Part XI.³⁴ As it is quite likely that a single EIA would be used to satisfy the requirements of processes at both levels attention must be given to how EIA processes are integrated with one another.

Looking to customary international law, deference is given to the state with jurisdiction over the EIA to determine the content of those rules,³⁵ but as those rules relate to the deep sea bed, there will need to be conformity with the international requirements. The relationship between international rules and domestic rules respecting the protection of the marine environment from activities in the Area is addressed in Article 209 of the UNCLOS, which affirms the obligation of states to adopt their own laws to manage the marine environment, which “shall be no less effective than the international rules”.³⁶ Article 4(4) of Annex III goes even further by requiring that Sponsoring States have an obligation to ensure contractor carries out its activities in “conformity with the terms of its contract”, which suggests that domestic law must also account for the specific contractual obligations.³⁷ Even where adherence to international rules is demonstrated, there would remain potential for inconsistent interpretation and application of those rules that may need to be resolved. As a consequence, there will be a need for both vertical (Authority – sponsoring state) and horizontal (between sponsoring states) harmonization of EIA processes and related compliance action to avoid conflicting directions and duplication. Given that contractors have some choice as to from which states they seek sponsorship, attention ought to be paid to avoiding regulatory laggards that might trigger a ‘race to the bottom’. In addition, the need to adopt an ecosystem approach and to assess cumulative impacts would potentially require sharing information between sponsoring states.

³⁴ In other contexts, the ITLOS has not demanded strict adherence to the exhaustion of local remedies rule.

³⁵ See *Case Concerning Pulp Mills on the River Uruguay (Argentina v. Uruguay) (ICJ)*, Judgment (20 April 2010) .

³⁶ UNCLOS, *supra* n.1, Article 209.

³⁷ *Ibid*, Annex III, Article 4(4).

In the administration of enforcement, there may be a further need for coordination to avoid inconsistent or duplicative administrative actions. One would expect that an effective enforcement scheme would require the sharing of information between the Authority and sponsoring states. Some of the potential enforcement mechanisms, such as on ship and customs inspections and the rules governing financial guarantees will necessitate sponsoring state, flag state and port state cooperation. As both sponsoring states and the Authority have obligations to act in the face of non-compliance, understanding which who has the primary enforcement jurisdiction, and how overlapping jurisdictions are to be addressed, can be understood as part of a duly diligent regulatory system, and as part of a Sponsoring State's duty to cooperate.³⁸

The potential tools that might be considered in aid of harmonization, include enforcement cooperation agreements between Sponsoring States and the Authority covering matters such as identification of key points of contact, information sharing (including data from remote sensing), joint inspections, technology sharing and capacity building), as well as substitution/mutual recognition arrangements whereby one jurisdiction will accept the EIA documentation prepared in accordance with the requirements of a different jurisdiction.³⁹ The ITLOS specifically identifies that a Sponsoring State may have to take measures to coordinate its activities with the Authority (with a view to eliminating duplication) as part of its due diligence obligations.⁴⁰

5. Non-compliance Procedures

In light of the obligation of States, particularly sponsoring states to enact their laws and regulations to effectively address the protection of the marine environment from activities in the Area, one element of compliance would potentially be the creation of a system of compliance review as adopted in other multi-lateral environmental agreements.⁴¹ The elements of such a system usually include reporting requirements whereby states must identify the steps they have taken to implement their obligations. A committee made up of state parties to assess whether a state has met its obligations under the agreement would then review these reports. Compliance proceedings can be triggered by other state parties and in some cases by the Secretariat or by non-state actors. Unlike enforcement proceedings, non-compliance mechanisms are often intended to be non-confrontation and where non-compliance is found,

³⁸ *Ibid*, Article 153(4).

³⁹ The Council has explicit authority to enter into agreements with other international organizations (*Ibid*, Art. 162(2)(f)), but Cooperation agreements or MOUs would likely fall within the Council plenary power to implement Part XI.

⁴⁰ ITLOS, Case No. 17, *supra* n.13, Para 218.

⁴¹ For general description, see Klabbers, *supra* n.3.

the consequences are oriented towards facilitating compliance through cooperative means, such as access to advice and assistance.⁴²

The UNCLOS does not currently provide for non-compliance procedures (at least not in a manner similar to other multi-lateral environmental agreements). UNCLOS was negotiated prior to the prevalence of non-compliance procedures, and has a robust, albeit more adversarial, dispute settlement process through the Seabed Disputes Chamber, which can be utilized to address questions of non-compliance. Furthermore, the regulatory role of the Authority may also diminish the usefulness of a separate non-compliance process since much of the preventative oversight can be managed through the regulations and procedures of the Authority.

Nonetheless, there may be some benefit in utilizing some of the tools associated with non-compliance procedures in relation to Sponsoring State obligations under Article 139. In particular, because Sponsoring States are required to have in place a regulatory structure, including administrative measures, to effectively oversee activities in the Area, requiring those states to identify the elements of their domestic regulatory system and the administrative measures better ensures that Sponsoring States are implementing their independent obligations appropriately. Providing for some oversight of Sponsoring States is consistent with the Authority's obligations under Article 153.⁴³ Providing details of their regulatory system may facilitate the identification of best practices in relation to EIA procedures, as well as the broader regulatory and administrative requirements Contractors are subject to within domestic legal systems. The deep seabed mining regime identifies a number of specific requirements that Sponsoring States must adhere to, such as ensuring that financial guarantees or other measures are in place to support emergency orders and providing recourse for compensation in the event of damages,⁴⁴ that could also be usefully reported. Reporting of domestic EIA and related regulations would also facilitate the harmonization of domestic rules with the Authority's regulatory requirements.

Compliance review could be undertaken by the LTC under its authority to supervise activities in the Area,⁴⁵ with recommendations to the Council. The Council has clear authority under Article 162(2)(a) to "supervise and coordinate the implementation" of Part XI, including matters of non-compliance. Non-compliance processes can be structured so as not to specifically identify non-compliance, but rather act in a more

⁴² *Ibid.*

⁴³ UNCLOS, *supra* n.1, Article 153.

⁴⁴ See ITLOS, *supra* n.13.

⁴⁵ UNCLOS, *supra* 1, Art. 165(2)(c).

cooperative, capacity building function. Such an approach may be particularly apt in cases where Sponsoring States have less built up regulatory capacity and could benefit from facilitative measures. Some key issues to resolve in relation to non-compliance include the standing of affected (coastal) states and NGO's to initiate non-compliance, the range of responses that may be available in the face of non-compliance, and the relationship of non-compliance procedures to more generalized enforcement actions through the Seabed Disputes Chamber.

6. Pre-approval Compliance

Because an EIA is required to be conducted as a condition of the approval of a plan of work,⁴⁶ the most effective manner of ensuring compliance is the withholding of an approval where the EIA fails to conform to the regulatory requirements set for the process. This gives the approval authority significant leverage to assess and insist upon compliance with pre-approval requirements. As between the Authority and an applicant, the key considerations here will be the manner by which the EIA is tied to the approval of work plans, the degree of precision with which the EIA requirements are set out and the amount of allowable discretion held by the decision-maker.

The authority of the LTC to review plans of work is contained in Art. 165(2)(b), which requires the LTC to assess the application "solely on the grounds stated in Annex III". Annex III references the eligibility criteria, and in relation to the environmental criteria requires that plans of work comply with the "rules, regulations and procedures of the Authority".⁴⁷ These provision goes on to say that where a proposed plan conforms to the requirements the LTC "shall approve" it, suggesting limits to the discretion of the LTC to refuse a proposed plan unless it contravenes a explicit requirement of the Authority.

Greater clarity respecting the need for an acceptable EIA to be a precondition of considering a work plan or a major revision to a work plan should be considered. Typically EIAs are required for major changes to approved activities. The conditions under which a contractor can seek to alter the terms of an existing exploitation contract are not specified, but ought to include regulations respecting assessment of the environmental implications of such a change.

In light of the narrow discretion afforded to the LTC in reviewing proposed plans, the degree of detail of the EIA requirements at the international level is crucial as it provides the legal basis upon which the

⁴⁶ Ibid, Art. 206; 1994 Agreement, *supra* n. 5, Annex, Art. 1(7).

⁴⁷ UNCLOS, *supra* 1 Annex III, Art. 6.

Authority, through the LTC, can refuse to accept an EIA. For example, many jurisdictions have specific procedures for determining the completeness of the EIA and its adherence to the substantive and procedural requirements identified by the approving authority. In relation to the existing exploration requirements, the requirements are contained in the regulations, but these do not provide a detailed set of prescriptive requirements for an EIA. The LTC has released a guidance document on the preparation of EIAs, but that document is not strictly binding.⁴⁸ However, the provisions of LTC guidance documents may be incorporated into a contract or undertaking required by the Authority. For example, the standard contract provisions under the RPEN include a requirement that the contractor observe, “as far as reasonably practicable” recommendations issued by the LTC.⁴⁹ The incorporation of these standards into a contract does not, however, create pre-approval standards.

Looking at the 2013 Regulations for polymetallic nodules, the requirement for an EIA is contained in Regulation 18, as part of a wider set of informational requirements that include:

- a) A description of environmental baseline studies “that would enable an assessment of the potential environmental impact...of the proposed exploration activities”;
- b) A “preliminary assessment of possible impacts of the proposed exploration activities on the marine environment”; and
- c) A “description of proposed measures for the prevention, reduction and control of pollution and other hazards, as well as possible impacts, to the marine environment”.

The basis upon which LTC is required to evaluate this information is set out in Regulation 21⁵⁰, which provides that the LTC shall “determine whether the proposed plan of work for exploration will: ... Provide for effective protection and preservation of the marine environment including, but not restricted to, the impact on biodiversity”. This provision, which mirrors the language of Article 192 of UNCLOS, provides the LTC with discretion to evaluate the adequacy of the EIA submitted. Where the LTC is of the view that the proposal does not meet these requirements, it is required to notify the applicant in writing, including reasons, and allow an opportunity for the applicant to amend its application. If, after amendment, the LTC is still of the view that the

⁴⁸ Legal and Technical Committee, *supra* n.7.

⁴⁹ RPEN, *supra* n.7, Annex IV, Section 13, but see Reg. 14.

⁵⁰ *Ibid*, Reg. 21.

proposal should be refused, the applicant has a further right to make representations to the LTC in respect of its proposal.⁵¹

The EIA requirements for exploration work plans raise a number of questions in relation to enforcement at the approval stage that require further consideration as rules are adopted for exploitation. First, the technical requirements for EIA remain unelaborated as compared to EIA requirements in domestic EIA systems, which may identify particular methodologies, provide further guidance on the adequacy of baseline environmental information, provide clear standards for assessing the acceptability of impacts and the kinds of mitigation measures that will be acceptable. Whether these requirements are to be provided in the form of regulations or guidance is likely to influence the degree to which the LTC can insist upon strict compliance.

Second, the primary mechanism for enforcing compliance with EIA requirements is the rule that no work may commence without prior-EIA approval. However, under the deep sea mining regime, the separation of the exploration phase and exploitation phase means that attention will need to be paid to carefully delineating and monitoring those activities that are associated with exploration versus those that are associated with exploitation. Given the centrality of this requirement, commencing work prior to an EIA approval ought to be identified as a specific offence with clear legal consequences.

Third, in terms of the substantive basis for evaluation, the relationship between the LTC's determination of what constitutes "effective protection and preservation of the marine environment" and other environmental principles and instruments may need to be clarified, particularly in light of the wording of s.165(2)(b) restricting the evaluation of plans of work to the requirements of the Authority. Of particular salience here will be those instruments that identify environmental standards or features that inform the meaning of "effective protection and preservation of the marine environment". Regulation 21 indicates the LTC shall have regard to "the principles, policies and objectives" contained in Part XI and Annex III, but is silent on the permissibility of having regard to other instruments. These instruments could include standards contained in other treaties, such as the Convention on Biological Diversity, as well as other environmental management tools developed by the Authority or by other international organizations.⁵² Some consideration may also need to be given to the norms of evaluation that the EIA is subjected to under the rules of the

⁵¹ *Ibid*, Reg. 21, para. 8.

⁵² UNCLOS, *supra* n.1, Annex III, Art.17(1)(b)(xii) makes reference to generalized "mining standards and practices", suggesting the incorporation of internationally recognized standards into the deep seabed mining regime.

Sponsoring State, which could potentially lead to differing conclusions as to the acceptability of the EIA.

Fourth, the attention to administrative safeguards in Article 21, such as the requirement to give reasons and to allow for unsuccessful applicants to have a right to make further representations, demonstrates a commitment to procedural fairness that incorporates general principles of administrative law found in domestic legal systems. The role of the ITLOS in resolving administrative disputes has the potential to raise unique legal questions regarding the standard of review of decisions by the Authority and the remedies that might be available to an unsuccessful applicant, particularly in light of the limitations placed on the ITLOS in Article 189 in reviewing discretionary decisions of the Authority.

A related issue that Regulation 21 raises is in relation to the requirement that the LTC must apply the regulations “in a uniform and non-discriminatory manner”. In the context of discretionary decisions, one would expect that the LTC has some flexibility in the application of the rules to account for the context of their application. Clarification of the application of this requirement to the review of EIAs may be warranted.

A final consideration in relation to the approvals process is whether affected or interested State Parties or non-state actors may have any recourse where they have concerns in relation to the adequacy of an EIA. To frame the issue in terms of administrative law, the question is whether a State Party or non-state actor does or should have any right to seek review of a decision to accept an EIA. A state whose environmental interests may be impacted by the activities under the jurisdiction of another state is entitled to notice and information respecting the activity, usually in the form of the EIA. Where a coastal state is of the view that an EIA fails to meet the requirements of the Authority, there appears to be scope for that state to raise its concerns before the ITLOS under Article 187(b).⁵³ Here the dispute would be structured as between the affected state and the Authority on the basis of the Authority’s failure to adhere to the deep seabed requirements. Alternatively, the affected state could seek to hold the Sponsoring State responsible for failing in its due diligence obligations, which include requiring an EIA for activities under its jurisdiction. The standing of non-coastal states to require compliance with EIA or related requirements would arise under their *erga omnes inter partes* interest, but this status remains ambiguous. The ability of

⁵³ See UNCLOS, *supra* 1 Art. 142; RPEN, *supra* n. 7, Reg. 34.

affected states to seek reviews of decisions respecting EIAs will be limited by Article 189.⁵⁴

A non-state actor (except for a Contractor or prospective Contractor) does not have standing to seek review or otherwise challenge a decision of the Authority or a state party before the ITLOS. In such circumstances recourse would need to be in relation to the EIA process in the domestic proceedings of the Sponsoring State. Providing opportunities within the domestic legal system for judicial review is in keeping with the broader trend to access to justice in international environmental law, including Article 235 of the UNCLOS.⁵⁵

Transparency of assessment processes and documentation is an essential element of compliance, as it allows interested parties to determine for themselves that assessment requirements have been met. Publication of the assessment is a requirement of Article 205 of *UNCLOS*, although the mechanism for publication is not specified. Disputes over the adequacy of disclosure and participation may require consideration of the recourse available to affected states and non-state actors in the face of consultation deficiencies, including the available remedies.

7. Post-Approval Compliance: Monitoring, Reporting and Verification

It would be a mistake to consider EIAs as being entirely *ex ante* procedures and confine enforcement questions to pre-approval procedures. Increasingly, EIA processes include post-approval follow-up mechanisms, including monitoring and reporting requirements, and the use of adaptive management techniques where there is a divergence of the actual impacts from those predicted and upon which the approval was predicated. In addition, monitoring data can be used to improve future assessment processes by ensuring that follow-up data is incorporated into the design and assessment of future EIA requirements.

⁵⁴ UNCLOS, *supra* 1, Art. 189, states “The Seabed Disputes Chamber shall have no jurisdiction with regard to the exercise by the Authority of its discretionary powers in accordance with this Part; in no case shall it substitute its discretion for that of the Authority. Without prejudice to article 191, in exercising its jurisdiction pursuant to article 187, the Seabed Disputes Chamber shall not pronounce itself on the question of whether any rules, regulations and procedures of the Authority are in conformity with this Convention, nor declare invalid any such rules, regulations and procedures. Its jurisdiction in this regard shall be confined to deciding claims that the application of any rules, regulations and procedures of the Authority in individual cases would be in conflict with the contractual obligations of the parties to the dispute or their obligations under this Convention, claims concerning excess of jurisdiction or misuse of power, and to 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 this Convention”.

⁵⁵ UNCLOS, *supra* n.1, Art. 235; see also J. Ebbeson, “Public Participation” in Bodansky, Brunnee and Hey, (eds.) *Oxford Handbook of International Environmental Law*. (New York: OUP, 2007), 681 at 700.

It must also be borne in mind that after an activity is approved there is a continuing obligation to disclose relevant information not available at the time the original EIA was conducted.⁵⁶ As noted, any major change to an activity will typically require a further EIA to be conducted.

Monitoring is a fundamental requirement for the protection of the marine environment and is identified as an independent obligation on states in Article 204 of the UNCLOS. In connection with exploration, monitoring by Contractors is required under Regulation 31(6) and 32 and is contained in the standard clauses for exploration contracts.⁵⁷ The expectation appears to be that the Contractor will establish in cooperation with the Authority a monitoring program that shall be implemented as part of their operation. Results from the monitoring program shall be reported to the Secretary-General as part of its obligations under the standard clauses. In addition to monitoring environmental conditions, the operational aspects of the mining activity would need to be monitored to ensure that the activities are being conducted in accordance with the approval granted (and assessed), i.e., the contractor is using only approved extraction processes and is operating only in approved areas.

As an integral part of a compliance program, several issues arise in relation to the monitoring and reporting requirements. Firstly, the monitoring program ought to be specifically tied to the EIA, in order that a clear comparison may be made between the predicted impacts and those actually occurring. Where monitored results show high environmental risks, consideration needs to be given to whether those risks are acceptable and whether adaptive steps need to be taken to address those risks. Typically, exceeding predicted impacts identified in an EIA is not considered a form of non-compliance. Because it is likely that the EIA will identify specific mitigation measures that are intended to reduce environmental risks, monitoring to ensure proper implementation of mitigation measures is also required. Where harm thresholds or mitigation measures are identified as necessary operational elements, they ought to form an explicit part of the permitting documents, in clear and auditable language.⁵⁸

Implementing adaptive management in relation to approved projects presents significant legal challenges, particular where adaptive requirements necessitate production changes, and production

⁵⁶ The obligation for a continuing obligation to disclose is a consistent element of EIA systems in both domestic and international law.

⁵⁷ See RPEN, *supra* n.7, Annex IV, Section 5.

⁵⁸ C. Wasserman, "Enforcement of Environmental Impact Assessment Requirements" (2011), *Proceedings of the Ninth International Conference on Environmental Compliance and Enforcement 2011*, 502.

particulars are specified in the contract itself. Interestingly, adaptive management techniques may be considered as best environmental practises and thus their inclusion in both international and domestic regulatory approaches may be considered a legal requirement. Adaptive management may also be considered as way to implement the precautionary principle, as it is a response to scientific uncertainty, and as such may be an element of due diligence.⁵⁹ Under the current rules, the only discussion of adjustment to operations is contained in the provisions respecting emergency orders.⁶⁰ This may indicate that any measure that requires a Contactor to adapt their operations (such as reduce production levels) would have to meet the requirements of an emergency order, which requires a threat of serious harm to the marine environment.⁶¹ Requiring a high harm threshold for adaptive management seems to undermine the precautionary principle, and explicit language addressing the conditions under which adaptive management approaches may be required and the range of permissible actions might be advisable.

A second issue relates to the intersection of the reporting requirements and the confidentiality rights of the contractor. Under the Exploration Regulations, the Contractor has extensive rights of confidentiality associated with data and information provided in its annual reports. There is an exception in relation to environmental monitoring data and information that is “necessary for the formulation by the Authority of rules, regulations and procedures concerning protection and preservation of the marine environment”.⁶² Where information does not fit into that exception, the Contractor may declare the information to be confidential. It appears the Authority must accept such a designation. The wording of the exception is narrow and does not clearly exempt information that is required for compliance purposes. Presumably, the intent of the confidentiality provisions is to protect the proprietary interests of the Contractor in relation to mineral deposits and mining technologies, not environmental performance. There may be some difficulties, however, making clear differentiations between data and information that supports marine protection from that which legitimately relates to commercial interests. These sections ought to be read purposefully in light of the broader marine protection objectives, including Article 205 of UNCLOS, as well as the broader emergence of norms of transparency and access to information in international environmental law. Greater clarity respecting the non-confidential of environmental information in relation to monitoring data would be

⁵⁹ See for example, *Pembina Institute for Appropriate Development v. Canada (AG)*, 2008 FC 302 (F.C.T.D.).

⁶⁰ See UNCLOS, *supra* 1, Art. 162(2)(w), 165(2)(k).

⁶¹ RPEN, *supra* n.7, Reg. 33.

⁶² *Ibid*, Reg. 36(2).

desirable, including clearly identifying information that is included in annual reports (subject to confidentiality) and other reports where no such claims may be made.

A final issue that arises in connection with monitoring and reporting is the extent to which the Authority and Sponsoring States in their respective regulatory spheres are entitled to rely upon the data and information provided to them without independent verification. The deep seabed mining scheme provides the Authority with powers of inspection, which appear wide enough to include independent monitoring and verification of environmental information.⁶³ Sponsoring states would have similar powers in relation to their domestic regulatory requirements. Given the emphasis by the ITLOS on necessity of administrative oversight mechanisms as part of a state's due diligence obligations, some ability to ensure the accuracy of reported data and information is likely a legal requirement. Inspectors are also subject to the confidentiality requirements.

8. Graduated Enforcement: Warnings, Orders and Sanctions

Monitoring, reporting and inspection processes provide a soft form of compliance that largely operates by virtue of requiring Contractors and Sponsoring States to identify and disclose performance metrics. In this context, compliance issues arise in relation to failures to meet the monitoring and reporting requirements, which fundamentally undermine the environmental management system. In addition, the reporting and inspection process may reveal substantive deficiencies in operating or its relation to any identified performance standards, including presumably, exceeding levels of acceptable environmental disturbance. In these instances, the Authority and the Sponsoring State have due diligence obligations to take reasonable steps to bring the Contractor back into compliance.⁶⁴

The deep seabed regime anticipates that the Authority will have recourse to a range of administrative measures that differentiates between the seriousness of the potential harm and the degree to which the non-complying behaviour is understood to be intentional. The result is a graduated form of enforcement whereby sanctions will be preceded by less intrusive measures, such as warnings. Thus, the process laid out in Article 18 of Annex III of the UNCLOS and repeated in the standard contract provisions, which provides for two broad classes of sanctions,

⁶³ UNCLOS, *supra* 1, Art. 162(2)(z) and Art. 165(2)(m). See also Laura Lallier and Frank Maes, "Environmental impact assessment procedure for deep seabed mining in the area: Independent expert review and public participation" (2016) *Marine Policy* forthcoming.

⁶⁴ See also 1994 Agreement, *supra* n. 5, Annex, Sec.1(13).

suspension and termination of the contract, in the case of “serious, persistent and wilful violation”, and monetary penalties “proportionate to the serious of the violation” for lesser violation (or in lieu of suspension and termination).⁶⁵ The scheme anticipates that prior to the imposition of sanctions, the Authority will issues warnings and that the Contractor will be afforded an opportunity to contest a sanction through the Seabed Chamber.

In relation to follow-up activities, failures to provide adequate environmental information are not likely to resort in sanctions unless the failure is extensive, leaving the Authority with a system of warnings. In the case of inadvertent non-compliance, identifying shortcomings and steps to bring the contractor into compliance may be sufficient. The seriousness of failing to provide accurate and adequate environmental information should not however be downplayed, as the integrity of the scheme as a whole depends upon the contractor providing sufficient information to identify and manage environmental risks. One possible avenue would be to define certain failures as serious to allow for a clear identification of consequences for continued (persistent) breaches. Deliberate falsification or mischaracterization of data would seem to meet the threshold of “serious” and “wilful” violations, and ought to be identified as an offence.

Whether, and under what conditions, warnings or other documented instances of non-compliance ought to be publicized is a further consideration. Disclosure of compliance records can potentially provide incentives to contractors, who may face pressures from other stakeholder groups, such as shareholders, suppliers and non-governmental organizations. Relatedly and as noted above, attention ought to be given to enforcement coordination, including disclosure between the Sponsoring State and the Authority, with reporting obligations flowing both directions.

An additional enforcement tool that is available to both Sponsoring States and the Authority is the use of administrative orders to require the carrying out of an activity required under the relevant scheme. Administrative orders are prescriptive directions that have legal consequences for non-compliance. The Authority has limited powers to issue orders, being restricted to issuing orders in cases of emergency only. Under the Exploration regulations emergency orders are issued by the Council on the recommendation of the LTC and are used in response to particular incidents.⁶⁶ As noted earlier, it is through emergency orders that the Authority has the ability to require adjustments to operations.

⁶⁵ RPEN, *supra* n. 7, ISBA/19/C/17, Annex IV, section Reg. 21.6.

⁶⁶ UNCLOS, *supra* 1, Arts. 162(2)(w), 165(2)(k).

Emergency orders also include opportunities for self help by which the Authority can initiate actions, which may be secured through a financial guarantee. The use of emergency order and guarantees in this context raise the question as to whether a more extensive use may be made of these tools in the exploitation phase.

Providing for more extensive use of administrative orders is in keeping with both the preventative and precautionary objectives of the deep seabed mining regime. Administrative orders could address a wide range of procedural and substantive non-compliance issues, and could require the production of samples and documents, provide for the questioning of employees and include more specific compliance schedules.

In the event of an environmental incident, administrative orders could include restoration activity. However, the approach under the exploration regulations is quite constrained. Emergency orders are limited to circumstances where activities “have caused, are causing or pose a threat of serious harm to the marine environment”, and allow measures to “prevent, contain and minimize” harm or threats of harm to the environment.⁶⁷ Emergency orders do not appear to have the scope to impose restoration of the environment. In contrast, domestic legal systems often contain wide-reaching authority to require remedial activities, often involving significant expenditures (tens of millions of dollars). A more extensive system of administrative orders would likely require consideration of procedural safeguards, such as appeals, for Contractors, particularly if orders can be issued on a no-fault basis. As with emergency orders, there would be a general need to secure administrative orders through guarantees or bonds. Given that administrative orders could potentially address damages, attention would also need to be paid to the relationship of remediation orders to liability rules.

One of the central challenges of any new enforcement regime is the absence of background rules that are normally associated with various enforcement tools. For example, in connection with punitive sanctions questions may arise in relation to the standard and onus of proof in order to demonstrate an “offense”. Similarly, the requirement for security presumes the presence of rules on commercial guarantees or bonds that may require further elaboration in order to operate in an international context.

⁶⁷ RPEN, *supra* n. 6, Reg.33.

9. Liability

There are three potential subjects of liability claims in relation to harm from exploitation activities, Contractors, Sponsoring States and the Authority itself. The scope of liability of Sponsoring States is laid in the Advisory Opinion discussed above, which effectively identifies that Sponsoring States will be liable for internationally wrongful acts, including failure to exercise due diligence in preventing harm to the marine environment. In relation to EIA, which is an integral part of due diligence, this suggests that Sponsoring States could be held liable for overseeing an inadequate assessment. To be clear, under Article 139(2) of *UNCLOS*, there would need to be a causal link between the inadequate assessment and the subsequent harm.⁶⁸

By limiting state liability to failures of due diligence, international law creates a liability gap whereby harm occasioned by activities that do not flow from state negligence are left unaddressed in international law. However, part of a Sponsoring States legal obligation under Article 235(2) is to ensure that their domestic legal systems provide avenues for “prompt and adequate compensation or other relief caused by pollution of the marine environment by natural or juridical persons under their jurisdiction”.⁶⁹ Sponsoring states may impose a domestic system of strict liability, but they are not obligated to do so. It is possible to leave civil liability in the hands of Sponsoring States alone, but this may result in patchwork of different liability regimes that could result in a race to the bottom from a liability coverage perspective. The alternative route is the development of a more comprehensive liability regime as contemplated by Article 235(3) of *UNCLOS* and noted by the *ITLOS* in connection with deep seabed mining.⁷⁰

There are a number of different international liability regimes associated with environmental harms, most prominently in connection with nuclear installations and oil pollution.⁷¹ The underlying purpose of such regimes is to establish the standards of liability (often as strict liability) and to establish a mechanism that ensures the presence of adequate funds and access to those funds in the event of claim. The mechanism for the latter objective is often in the form of a liability fund that is paid into by operators or a mandatory insurance or financial security scheme. The schemes have rules that establish the level of contribution or coverage – based perhaps on the scale of the operation (connected to royalties or

⁶⁸ *ITLOS, supra* n.13, para 178.

⁶⁹ *UNCLOS, supra* n.1, Art. 235(2).

⁷⁰ *ITLOS, supra* n.13, para. 205.

⁷¹ International Convention on Civil Liability for Oil Pollution (London, 1992); International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damages (London, 1992).

tonnage). The scheme could operate at an international level and be overseen by an organ of the Authority or could be structured as a set of harmonized domestic requirements. Typically, the requirements for securing future damage claims establish a liability cap, allowing the operator to limit their liability.

Consideration would need to be given to a range of issues, such as:

- a) The type of activities covered (mining, transport);
- b) The nature of damages covered, for example – would the scheme cover damages for pure environmental loss or would it be restricted to economic damages to specified persons or property interests. If pure environmental losses are to be considered, further consideration may need to be given to establishing the basis upon which losses are calculated.
- c) Who may recover from the funds? Could, for example, the Authority recover on the basis of damage to the common heritage of mankind? Could individual states recover in recognition of their *erga omnes* interest? Arguably, if there was a robust system of restorative orders to which the Authority could have recourse, the need for civil liability to pay for damages for environmental harm would be diminished. This issue was touched upon in the *Advisory Opinion*, where the ITLOS noted that damages would include “damages to the area and its resources constituting the common heritage of mankind, and damage to the marine environment” The ITLOS went on to enumerate “the Authority, entities engaged in deep seabed mining, other users of the sea and coastal states” as potential claimants.⁷²
- d) Even if the standard of liability were strict, there may still be a need to provide for exemptions, such as damages from acts of god, war and hostilities, and to establish rules on joint and several liability and contributory claims.
- e) The establishment of some process for adjudicating claims, whether through domestic courts, perhaps channelling claims to the courts of the Sponsoring State, or through an international adjudication body.

Liability schemes have tended to focus on operators, but given the responsibilities of Sponsoring States, there may be circumstances under which a liability scheme establishes rules and procedures for state responsibility for environmental harm in accordance with rules of

⁷² ITLOS, *supra* n.13, para 179-180.

international law.⁷³ Sponsoring State negligence may arise in the context of contributory negligence.

Finally, Article 22 of Annex III raises the possibility of the Authority's responsibility for damages arising from contributory acts or omissions and internationally wrongful acts.⁷⁴ Article 187 provides the Seabed Disputes Chamber would have jurisdiction over disputes involving allegations of liability under Article 22 of Annex III. The law on the legal responsibility of international organizations remains uncertain, although it has been the subject of inquiry by the International Law Commission.⁷⁵ Here the basic rule, as articulated by the ILC, is that "every internationally wrongful act of an international organization entails the international responsibility of the international organization".⁷⁶ In relation to EIA, there is potential exposure in relation to the negligent oversight of assessment processes, including acts or omissions associated with securing compliance.⁷⁷

A further consideration in relation to questions of responsibility is the available remedies. Much of the focus on liability is on damages. A point reinforced by Annex III, Article 22, which notes "liability in every case shall be for the actual amount of damages".⁷⁸ However, international law recognizes a broader range of remedies that might include declaratory relief or other forms of satisfaction. The ICJ, in the *Pulp Mills* case, distinguishes between procedural and substantive breaches, which might have particular salience for failures to carry out adequate EIAs, as was alleged in that case.⁷⁹ The ICJ was inclined to limit its remedies to declaratory relief for procedural breaches. An approach criticized in a separate opinion,⁸⁰ but followed in the *Road Case*.⁸¹

10. Conclusion

As deep seabed mining moves from exploration to exploitation there will be a heightened awareness of the need to ensure that rules enacted to protect the marine environment are complied with and, where they are not, that there are adequate procedures in place to determine liability

⁷³ Consider in connection with nuclear liability, for example.

⁷⁴ UNCLOS, *supra* n.1, Annex III, Article 22.

⁷⁵ International Law Commission (ILC), Draft Articles on the responsibility of international organizations, with commentaries, 2011, Sixty-third Session, UN GAOR, 63rd Sess., Supp. 10, UN Doc. A/66/10.

⁷⁶ *Ibid*, Art. 3

⁷⁷ UNCLOS, *supra* n.1, Art. 153(4).

⁷⁸ *Ibid*, Annex III, Art. 22.

⁷⁹ *Pulp Mills*, *supra* n.35

⁸⁰ *Ibid*, Joint Dissenting Opinion of Judges Al-Khasawneh and Simma, para. 26.

⁸¹ ICJ, *Construction of a Road in Costa Rica along the San Juan River (Nicaragua v. Costa Rica)*, 16 December, 2015.

and provide compensation to harmed states and individuals. The obligation to put such measures in place has been described as a central element of a state's and, by extension – the Authority's, due diligence obligations. At present, the existing rules and processes to provide effective enforcement and liability are inchoate and will require the development of additional rules and competences to meet the compliance and liability requirements anticipated under the deep seabed mining regime.

Perhaps the most pressing issue that needs to be addressed is determining and allocating the jurisdictional competences of Sponsoring States and the Authority. Once a clearer picture of the respective roles of the regulatory authorities and the manner of their cooperation is determined, the parties will be in a stronger position to address the more specific rules and processes needed.