

Substantive criteria as preconditions for the approval of exploitation activity

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Presentation Outline

- Background
- Challenges/Problems
- Questions to be discussed and solved
- Options to be deliberated
- Recommendations including potential next steps



Background

- The ISA is responsible for ensuring effective protection for the marine environment from harmful effects which may arise from activities in the Area (Art 145 LOSC)
- The environmental regulations should include **substantive criteria as pre-conditions for the approval of a plan of work for exploitation** that determine an effective level of protection from the harmful effects which arise from exploitation activities in the Area



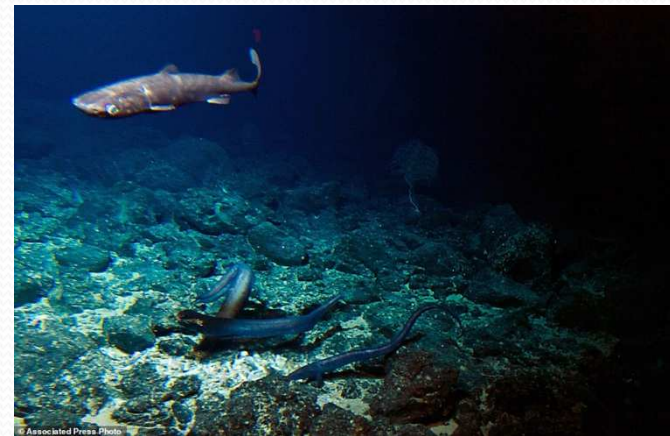
Challenges/Problems

- Developing the mineral resources of the Area for the benefit of mankind while also providing effective protection for the marine environment from the harmful effects of activities in the Area
- Determining the relevant environmental governance principles applicable to each stage of an exploitation activity and how they can be operationalised in practical terms



Question to be asked and solved

- Content of normative principles of international environmental law and generally accepted principles of environmental management which apply to activities in the Area
- How these should be reflected in the substantive criteria for approval or rejection of a plan of work for exploitation





LOSC Environmental Protection Obligations

- Art 192 – General obligation to protect and preserve the marine environment
- Art 194 (1) – Take all measures necessary to prevent reduce and control pollution of the marine environment from any source including activities in the Area
- Art 194(5) - Such measures to include those necessary to protect and preserve rare and fragile ecosystems as well as the habitat of depleted threatened and endangered species and other forms of marine life



LOSC Environmental Protection Obligations

- Art 145 – Necessary measures shall be taken...with respect to activities in the Area to ensure effective protection for the marine environment from harmful effects which may arise from such activities
- The Authority shall adopt rules regulations and procedures for:
 - The **prevention reduction and control of pollution** and other hazards in the marine environment....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
 - 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



International Law Principles/Approaches/Obligations relevant to ISA, Sponsoring States and Contractors in the environmental context

- Common heritage of mankind
- Ecosystem approach
- Precautionary principle/approach
- Environmental Impact Assessment
- Best available scientific evidence
- Best environmental practices (including best available technology)
- Transparency – access to environmental information, public participation and access to justice
- Polluter pays principle

Common Heritage of Mankind

- Mineral resources of the Area cannot be appropriated to the exclusive sovereignty of States but must be conserved and exploited for the benefit of all, without discrimination (Birnie Boyle and Redgwell)
- The equitable sharing of any benefits from seabed mining as well as the preservation of the marine environment for present and future generations (Jaeckel)
- Although socio-economic considerations play a role, they should not compromise environmental protection efforts (ITLOS Advisory Opinion)



CHM - General implications

- CHM supports the adoption of a precautionary approach by the Authority, sponsoring States and contractors – assessment of alternatives to deep seabed mining
- CHM could also be viewed as supporting a more holistic and regional planning approach to developing the mineral resources of the Area in an environmentally sustainable manner employing tools such as regional environmental management plans, SEA and EIA



CHM at Plan of Work Stage

- Requires the Authority to take into account a range of matters in relation to an applicant
 - Financial and technical capabilities to carry out successful exploitation activities as well as their ability to ensure effective protection for the marine environment of the Area from the harmful effects of their activities
- Requires the applicant to demonstrate their capability to ensure effective protection of the marine environment from harmful effects through such processes as environmental baseline study, EIA process, environmental management plans



Ecosystem Approach

- Science based environmental management strategy which encompasses the essential structure processes, functions and interactions among organisms and their environment.
- Ecosystem approach requires an assessment of the impacts of activities not only on a single mining site/contract area but of the entire ecosystem at regional or sub-regional level.
- Also need to take into account the cumulative and synergistic impacts of human activities in different regions of the Area over time through processes such as SEA.



Ecosystem Approach at POW Stage in draft environmental regulations

- Requirement for applicants to establish an adequate environmental baseline of the relevant areas against which to assess the likely environmental impacts
- Requirement to conduct prior EIA
- Development of environmental management plan not mandatory at POW stage in current draft



Ecosystem Approach – Discussion Questions

- Are the requirements imposed on applicants in the draft environmental regulations consistent with an ecosystem approach?
- How would an applicant's plan be assessed in a regional context?
- How could clear objectives and standards for an ecosystem based approach be further reflected in guidelines accompanying the environmental regulations?



Precautionary Approach

- The Authority, sponsoring States and contractors are required to apply a precautionary approach as reflected in Principle 15 of the Rio Declaration to activities in the Area
- Principle 15 provides:

“In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost effective measures to prevent environmental degradation”



Precautionary Approach at the POW Stage

- Applicants must identify the geographical limits of the areas of the marine environment likely to be affected by their exploitation activities and establish an adequate environmental baseline of the environmental impact areas against which to assess the likely environmental impacts and to determine the necessary measures, management objectives and responses for the effective protection of the marine environment from exploitation activities (draft env regs 18 and 19).
- In assessing an application, LTC must take into account:
 - “any uncertainties or inadequacies in the data available, the application of the precautionary approach and relevant precautionary measures”
 - “the capacity of the Applicant to monitor key environmental parameters and ecosystem components so as to identify any adverse effects of mining activities and to provide for the modification of management and operating procedures as may be necessary in the light of the results of monitoring or increased knowledge of the receiving environment. (draft env regs 41(p) and (r)).”

Precautionary Approach - Discussion Questions

- Are the provisions in the draft environmental regulations sufficiently reflective of a precautionary approach by the Authority and the applicant at the plan of work stage?
- Should there be a provision in the draft environmental regulations to the effect that if the environmental baseline study and EIA reveal that there is not adequate information available to determine the likely effects of the proposed exploitation activity on the environment of the proposed contract site, then the exploitation activity should not be considered further?

Environmental Impact Assessment

- The general obligation to conduct an EIA of activities with the potential for significant harm to the marine environment is contained in Art 206 of the LOSC.
- In the context of activities in the Area, the requirement to conduct an EIA has been recognised as an international law obligation of sponsoring States by the Seabed Disputes Chamber of ITLOS in their Advisory Opinion.



EIA at the POW Stage

- Some components of the EIA process but not necessarily all, are reflected in the draft environmental regulations
- The content of the environmental impact statement is not yet prescribed
- A notice of the fact that an application for a plan of work has been received must be posted on the Authority's website together with information on how copies of the environmental plans may be accessed but if preparation of environmental plans is discretionary at the application stage this step loses some of its meaning.
- The draft environmental regulations provide the opportunity for "interested persons" to have input into the EIA but "interested persons" is defined as "a natural or juristic person or an association of persons that in the opinion of the Authority is directly affected by the carrying out of exploitation activities in the Area."



EIA Discussion Questions

- Do the current provisions of the draft environmental regulations adequately incorporate all the widely accepted components of an EIA process?
- Are the current provisions on access to information for interested persons during the EIA process in the draft environmental regulations consistent with the widely accepted norms of public notification and consultation in EIA processes?

Best Available Scientific Evidence

- This requirement is often expressed as an obligation to base decisions on the best available scientific evidence
- In the context of a plan of work for exploitation, both the applicant and the Authority are required to take into account the best scientific information available to them in their evaluation and management of risks to the marine environment.



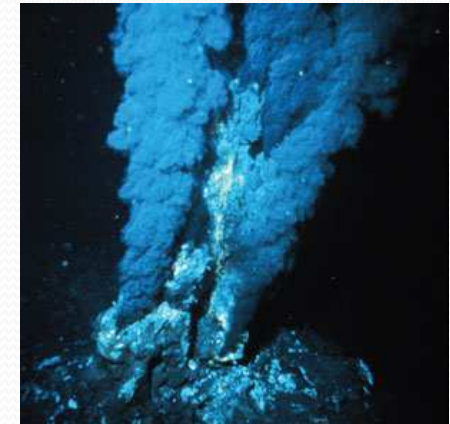


Best Available Scientific Evidence – Discussion Questions

- Is the requirement for the applicant and the Authority to take into account the best scientific information available to them in developing and assessing the plan of work sufficiently rigorous?
- Should there be an independent scientific evaluation of the applicant's plan of work and if so, which body would perform this

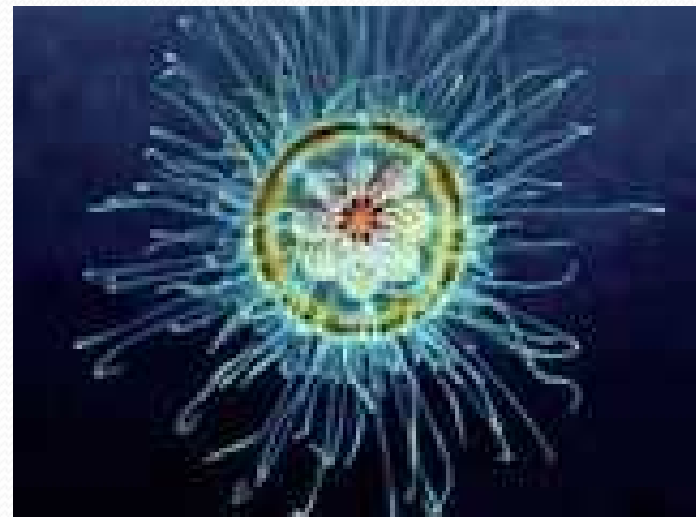
Best Environmental Practices

- OSPAR Convention defines the concept of best environmental practices as “the application of the most appropriate combination of environmental control measures and strategies.” and further acknowledges that these practices “change with time in the light of technological advances, economic and social factors, as well as changes in scientific knowledge and understanding.”
- The ITLOS Advisory Opinion confirmed that States sponsoring exploration and exploitation activities in the Area must ensure that their contractors apply best environmental practices.



Best Environmental Practices – Discussion Question

Is the contractor obliged to adapt its mining operations to the developing requirements of “best environmental practices” including “best available technology” during the course of its exploitation contract and should there be an undertaking to this effect in the contract for exploitation?



Access to Environmental Information

- Principle 10 of the Rio Declaration highlights the importance of access to environmental information and participatory rights in environmental decision making.
- Principle 10 is reflected in the Aarhus Convention, Espoo Convention, Kiev Protocol and the Almaty Guidelines.
- Draft environmental regulations incorporate some provisions on access to environmental information, consultation in environmental assessment, public notification of exploitation application and access to environmental plans if applicant has prepared these.



Access to Environmental Information – Discussion Question

Do the current draft environmental regulations adequately reflect the three requirements of transparency contained in Aarhus Convention – access to environmental information, public participation and access to justice?





Polluter Pays Principle

- The polluter pays principle means that the polluter bears the expense of carrying out measures to ensure that the environment is in an acceptable state.
- It is reflected in Principle 16 of the Rio Declaration and a number of other treaties relating to marine environmental protection including OSPAR, Helsinki and Barcelona Conventions
- The current draft environmental regulations require contractors to bear the cost of pollution control and waste management and give the Authority power to recover costs in the event of remedial measures.
- The contractor may also be required, if the Council decides in particular circumstances, to post an environmental performance guarantee to secure compliance for remediation, rehabilitation and removal of equipment from the exploitation site.

Polluter Pays Principle – Discussion Question

Are there any additional provisions which should be included at the application/plan of work stage in the draft environmental regulations to reflect the polluter pays principle?



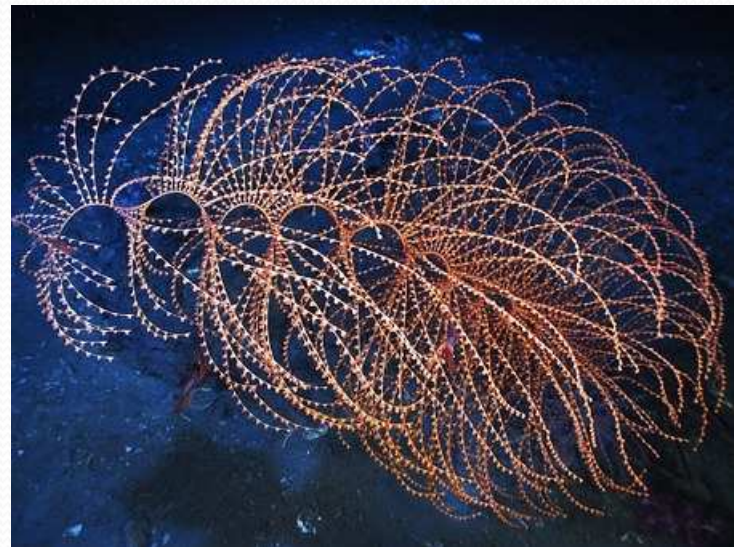
Question to be asked and solved

Potential legal threshold for approval or rejection of a proposed plan of work for exploitation



Legal Thresholds for Taking Precautionary Action

Legal thresholds have mainly been discussed in terms of the point at which precautionary actions need to be taken during exploration/exploitation activities in the Area to prevent harmful effects/serious harm to the marine environment



Precautionary Approach Elements

Precautionary Approach comprises three elements:

- Threat of environmental harm
 - Uncertainty
 - Remedial action
- To trigger the obligation to take remedial action, a certain threshold of risk needs to be reached – gravity times probability of harm
 - Once gravity and probability thresholds are reached, the precautionary approach requires that measures to prevent environmental degradation be taken (Jaeckel)

Legal Thresholds for Precautionary Action in the Area

- General threshold for applying precaution – in order to ensure effective protection for the marine environment **from harmful effects** which may arise from activities in the Area (Nodules Regs 31(2), Sulphides and Crusts Regs 33(2))
- Seabed Disputes Chamber in the Advisory Opinion referred to sponsoring States obligation to apply the precautionary approach as an element of due diligence where there are “**plausible indications of potential risks.**”



Legal Thresholds for Precautionary Action in the Area

- The LOSC and the Exploration Regs set a higher threshold, that of **serious harm**, for **particularly far reaching measures** such as:
 - emergency orders to suspend or adjust operations in the Area to prevent serious harm to the marine environment
 - to disapprove areas for exploitation by contractors in cases where substantial evidence indicated the risk of serious harm to the marine environment
 - prescription of provisional measures in a dispute to prevent serious harm to the marine environment



Definition of Serious Harm

“Serious harm” is defined in Reg 1 of both the Nodules and Sulphides and Crusts Regulations as:

“Any effect from activities in the Area on the marine environment which represents a **significant adverse change** in the marine environment determined according to the rules, regulations and procedures adopted by the Authority on the basis of internationally recognised standards and practices.”

“Significant adverse change” in the marine environment

- In the context of deep seabed mining, ecological thresholds can help to inform the determination of when an adverse change and/or impact may be considered a significant one i.e. serious harm (Levin et al)
- A range of indicators may assist in determining the likelihood of significant adverse changes and impacts at species, ecosystem and community levels including measures of biodiversity, abundance, habitat quality, population connectivity, heterogeneity levels and community productivity (Levin et al)



Distinguishing the threshold for approving or rejecting a plan of work for exploitation

- The threshold of serious harm is not specifically used in the LOSC or the current ISA Mining Code in connection with the approval or denial of a plan of work for exploration or exploitation activities in the Area
- The threshold for approval or denial of a plan of work is not necessarily the same as the threshold for taking precautionary action



Applying Precaution in the Application Process

- Applying precaution will of course be necessary during the course of an application process once the general threshold for precaution is met i.e. –**harmful effects to the marine environment**
- Applying precaution in the context of the application process involves a series of steps including EIAs, assessment of alternative options and transparent decision making



Applying Precaution in the Application Process

- The application of precaution would not automatically result in rejection of a plan of work for exploitation
- Amending the plan of work and/or changing the location of the mining operation may be an option to lower the risks to an acceptable level
- If lowering the risks to an acceptable level is not possible, then rejection of the plan of work may be required





A Potential Threshold for Approval or Rejection of a Plan of Work for Exploitation

- A potential threshold that could be applied to approval or rejection of a plan of work for exploitation is whether the applicant is able to demonstrate an effective system to protect the marine environment from the harmful effects of exploitation activities against a set of objective criteria prescribed by the Authority.
- Another formulation whether the applicant has taken all reasonable steps to demonstrate its ability to provide an effective system to protect the marine environment from the harmful effects of exploitation activities against a set of objective criteria prescribed by the Authority



An Effective System to Protect the Marine Environment from Harmful Effects

- Both the applicant and the Authority would need to engage in a very thorough identification of the risks and uncertainties of the proposed exploitation activities for the marine environment of the Area and the proposed plans to address those risks and uncertainties
- Applicants would need to conduct an EIA and on the basis of that assessment, develop and submit environmental management plans and a system to address any harmful effects on the marine environment of the Area

An Effective System to Protect the Marine Environment from Harmful Effects

- The adequacy of the EIA and environmental management plans would then need to be assessed against a set of objective criteria, approved by the Authority, to measure whether the plan of work meets the requirement of effective protection of the marine environment from harmful effects
- Some relevant criteria are already included in the draft Environmental Regulations eg draft regulation 19(2)



An Effective System to Protect the Marine Environment from Harmful Effects

- Where a risk is identified as a potential significant risk or uncertain risk, further sampling, data collection and monitoring may be required by the Authority to assess the risk more clearly
- Submission of further information and adjustment of environmental management plans.
- Where an applicant is unable to demonstrate an effective system to protect the marine environment from harmful effects after these exchanges further requests for information, then a threshold may be reached for rejection of plan of work

