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Keynote address by Michael W. Lodge, Secretary-General, International Seabed Authority

Current efforts by the International Seabed Authority relating to Environmental Regulation of Activities in the Area

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[Pleasantries]

I have been asked to speak about the work of the International Seabed Authority as it relates to environmental regulation of activities in the Area, with particular reference to methods and techniques for environmental impact assessment.

Environmental regulation is in fact one of the most important tasks of the Authority. It is a task that is explicitly allocated to the Authority under Part XI of the 1982 United Nations Convention on the Law of the Sea. This aspect of the Authority's work was given even more emphasis under the 1994 Agreement for the implementation of Part XI, which states that the adoption of rules, regulations and procedures for the protection and preservation of the marine environment should be one of the priority issues for the Authority between entry into force of the Convention and the approval of the first plan of work for exploitation.

Legal mandate for environmental regulation

The legal mandate for the Authority's work is found in Article 145 of the Convention, which requires the Authority to take necessary measures 'to ensure effective protection for the marine environment from harmful effects which may arise' from activities in the Area. To this end, the Authority is required to adopt appropriate rules, regulations and procedures 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.

This is a very precisely worded provision, which complements the general provisions of the Convention in relation to the protection of the marine environment contained in Part XII of the Convention. Those provisions in turn constitute the basic framework for the legal regime that establishes the obligations, powers and responsibilities of States with respect to the marine environment.

Article 192 establishes the overarching obligation of all States to protect and preserve the marine environment. Articles 194, 204 and 206 go on to describe the specific measures to be taken by States to prevent, reduce and control marine pollution as well as to ensure that activities under their jurisdiction or control do not cause pollution damage to other States and their environment, and that pollution does not spread beyond the areas where they exercise sovereign rights under the Convention.

In relation to the Area, Article 209 states that '[I]nternational rules, regulations and procedures shall be established in accordance with Part XI to prevent, reduce and control pollution of the marine environment from activities in the Area.' This provision therefore forms a direct link to Article 145.

I mention these legal provisions in order to emphasize that, as an institution created by the Convention, the Authority is an international organization with precisely defined and limited powers and functions. Any implied powers the Authority may have are expressly limited to those that are implicit and necessary for the exercise of its powers and functions with respect to activities in the Area.

In particular, definitions are important. The Authority's mandate is limited to 'activities in the Area', which are defined as exploration for and exploitation of deep seabed mineral resources. The Authority's main responsibility with regard to the marine environment is to 'prevent, reduce and control pollution and other hazards' to the marine environment, where 'pollution' is a defined term in Article 1 of the Convention.

To put it in more straightforward terms, the Authority's task is to set the conditions under which deep sea mining can proceed without causing serious harm to the marine environment. That means preventing, reducing and controlling known significant harmful effects as far as possible through regulatory mechanisms that require appropriate risk assessment, provide for long-term monitoring and management of environmental impacts and incentivizing engineering and mining planning solutions that minimize environmental damage.

For the purposes of the Authority's regulatory regime, deep sea mining is divided into two phases: exploration and exploitation. Whilst there may be some overlap between these phases in terms of the activities that may be permitted, the primary objectives of the exploration phase are to identify mineable areas, carry out tests of equipment and conduct environmental baseline studies. The Authority has adopted regulations governing exploration for all three types of mineral resources – nodules, sulphides and crusts – and is currently developing an exploitation code. Together these will form a complete mining code.

Environmental regulation during the exploration phase

The Exploration Regulations attempt to strike a balance between a precautionary approach to activities in the Area and an incremental approach to regulation, with an emphasis on gathering sufficient data during the early phase of exploration in order to determine the range of potential environmental impacts. This is a logical approach to take because the majority of activities carried out in the exploration phase have little or no detrimental effect on the marine environment.

The Regulations impose a duty on each contractor to ‘take necessary measures to prevent, reduce and control pollution and other hazards to the marine environment arising from its activities in the Area as far as reasonably possible, applying a precautionary approach and best environmental practices.’

To give effect to this general duty, exploration contracts require contractors to submit an assessment of the potential environmental impacts of their proposed activities. Thereafter contractors are required to gather environmental baseline data as exploration activities progress and to establish environmental baselines. Contractors are also required to carry out monitoring programmes but also may be required to cooperate with the Authority and sponsoring States in the establishment and implementation of such monitoring programmes. In practice this means that contractors are required to submit an annual report on the implementation and results of their environmental monitoring programmes, including relevant data and information. These reports are then forwarded to the Legal and Technical Commission of the Authority which reviews them and makes such comments and recommendations as may be necessary to the Secretary-General, who then draws any relevant issues to the attention of contractors.

At a more practical level, the Regulations are supplemented by detailed ‘Recommendations’ for the guidance of contractors issued by the Legal and Technical Commission. The first set of environmental recommendations was issued in 2001 and dealt with the assessment of possible environmental impacts arising from exploration for polymetallic nodules. The recommendations described the procedures to be followed in the acquisition of baseline data, and the monitoring to be performed during and after any activities in the exploration area with potential to cause serious harm to the environment. They were based on the recommendations of an international workshop convened by the ISA in 1998 which had recognized the need for clear and common methods of environmental characterization based on scientific principles and taking into account oceanographic constraints.

The 2001 recommendations were revised in 2010 in the light of increased understanding. Then, in 2013, following the adoption of exploration regulations for sulphides and crusts, the Commission decided that there was a need to create a comprehensive set of environmental assessment guidelines that dealt with all three types of marine minerals. The revised and updated recommendations take into account new knowledge, including the outcomes of workshops convened by the ISA, and set out the detailed observations and measurements that need to be made while performing specific activities and recommended data collection, reporting and archiving protocols. The recommendations are accompanied by a glossary of key terms and an explanatory commentary.

Importantly, the recommendations also elaborate on and clarify the obligation on contractors to undertake environmental impact assessments (EIA) by listing the activities that do and do not require prior environmental impact assessment. The threshold where EIA is required is generally around the

point at which the contractor begins at-sea testing of collecting and processing systems. Activities which are considered to have no potential for provoking serious harm to the marine environment, and thus do not require EIA, include: gravity and magnetometric observations and measurements; bottom and sub-bottom acoustic or electromagnetic profiling; water, biotic, sediment and rock sampling for environmental baseline study; meteorological observations and measurements; oceanographic observations and measurements; video and still photographic observations; placement of positioning systems; towed plume-sensor measurements; DNA screening of biological samples; and shipboard mineral assaying and analysis.

With respect to those activities that do require a prior EIA, the recommendations require the contractor to submit the EIA and a proposed monitoring programme to the Authority at least one year before the activity takes place. The recommendations include a reporting template for the EIA, as well as details of the observations and measurements to be made during and after the activity in question. Activities which will require prior EIA include sampling above specified quantities for each mineral resource; artificial disturbance of the sea floor; testing of collection systems and equipment; drilling; rock sampling; and sampling with epibenthic sledges, dredges and trawls.

Importantly, it is noted in the recommendations that the baseline, monitoring and impact assessment studies carried out during exploration are likely to be the primary inputs to the environmental impact assessment for commercial mining. It is in the contractors' interest, therefore, to ensure that baseline studies are satisfactory.

Although time does not permit today, I should also mention the important role played by the Authority in developing the first ever regional environment management plan for the Clarion Clipperton Zone. This is regarded as so important that the General Assembly of the UN has called upon the Authority to develop similar environmental management plans in other regions where significant exploration activity is taking place.

Environmental regulation during the exploitation phase

It is obvious that environmental regulation will need to be far more stringent during the exploitation phase. This is because certain effects from deep sea mining are already known to be harmful to the marine environment. These include, for example sediment disturbance and displacement, removal of the nodules which act as a hard substrate, compression of the seafloor under the collector, and at-sea disposal of dewatering and initial shipboard processing effluents.

The Authority is now in the process of developing exploitation regulations. This is a challenging, and complex, exercise. The process began in 2013 with the issue of a Technical Study on the issues associated with the development of a regulatory regime for mining.

Subsequently, the Legal and Technical Commission conducted a public consultation in which it sought the views of stakeholders as to some of the key policy issues arising in connection with exploitation. The Secretariat also commissioned a number of discussion papers on issues including financial aspects of exploitation, dispute settlement and responsibility and liability.

Then, in July 2016, the Legal and Technical Commission issued a 'Zero Draft' of the exploitation regulations. This was made available for public consultation until November 2016. The results of that consultation were considered by the Commission at its recent meetings in Kingston and it is expected that a further report will be issued to the Council in August 2017.

Discussion of the environmental aspects of the exploitation regulations have proceeded down a slightly different path. An initial reporting template for environmental impact assessment during exploitation was prepared during a workshop convened by the Authority in Fiji in 2012. In May 2016, a further workshop was convened with the support of the Government of Australia to examine a range of issues associated with environmental regulation during exploitation. In January 2017, drawing on some of the outcomes of that workshop, the Secretariat prepared a discussion paper for the Legal and Technical Commission on the development and drafting of environmental regulations. This was considered by the Commission, which will continue working on the issues. There will also be a further workshop, to be convened in Berlin next week, with the support of the German Government, which will provide an opportunity for a broad range of stakeholder input into the process of developing the environmental regulations. At a certain point, it is anticipated that the Commission will issue a more formal request for stakeholder comments on a draft set of environmental regulations, possibly as part of a comprehensive first draft of the exploitation code.

The workshop reports and working documents issued by the Authority raise numerous issues that will need to be considered as the process moves forward.

- What should be the content of the EIA process?
- How prescriptive should the regulations be? Should they set minimum standards or should they be comprehensive? Should there be a reference standard, e.g. Good Industry Practice? How is this defined?
- What is the EIA measured against? What constitutes an acceptable baseline from a legal and scientific perspective? Who determines whether the baseline data are sufficient (Legal and Technical Commission, contractor, external peer review?)
- What are the requirements for an EIA Report?
- What is the content of an Environmental Management and Monitoring Plan? Should it cover the entire contract area or can it be delivered according to a progressive mining plan?
- What is the process for review and evaluation of EIS and Environmental Management and Monitoring Plans?
- How will environmental targets and thresholds be determined for the purposes of environmental monitoring?
- To what extent should information be publicly available?
- To what extent should there be public participation in decision-making?
- How does project-specific environmental management relate to regional environmental management and vice-versa?

Concluding remarks

As you will gather from the content of my talk, the role being played and to be played by the scientific community in regulatory development and on-going environmental decision-making is crucial. The Authority seeks to work more closely with the scientific community to help define priorities for marine scientific research to improve environment baseline studies. We also look to the scientific community to help develop adequate environmental monitoring and management programmes to assess the future effect of mining activities on the marine environment.

In light of the current phase of development of deep seabed mining, we are presented with a unique opportunity for the scientific community to work in partnership with the Authority towards a new phase of ocean science and exploration to meet the challenges of the twenty-first century.