

SUMMARY OF THE TWENTY-FOURTH ANNUAL SESSION OF THE INTERNATIONAL SEABED AUTHORITY (FIRST PART): 5-9 MARCH 2018

The first part of the 24th annual session of the International Seabed Authority (ISA) consisted of a meeting of the ISA Council convening from 5-9 March 2018 in Kingston, Jamaica, followed by a meeting of the ISA Legal and Technical Commission (LTC) from 12-23 March. This is the first time that the ISA annual session is divided in two parts according to a revised meeting schedule meant to increase transparency and engender a mutually responsive dialogue between the LTC and the Council.

The main item discussed by the Council was the draft regulations on the exploitation of mineral resources in the deep seabed, which was addressed in an informal format with a view to conveying non-binding guidance to the LTC, as a Council President's statement. Delegates exchanged views on six themes:

- understanding the pathway to exploitation and beyond;
- the payment mechanism;
- the role of the sponsoring state (which has the responsibility to ensure, within its legal system, that a contractor carries out activities in the Area in conformity with the terms of its contract and UNCLOS obligations);
- the role and legal status of standards, LTC's recommendations and guidelines;
- broader environmental policy and regulations on exploitation; and
- the roles of the Council, Secretary-General, and the LTC in the regulations on exploitation.

Participants focused their attention on a payment mechanism, and the need to strengthen the draft regulations with regard to the implementation of the common heritage of humankind and the protection of the marine environment.

The second part of the session will be held in July 2018.

A BRIEF HISTORY OF THE INTERNATIONAL SEABED AUTHORITY

The 1982 United Nations Convention on the Law of the Sea (UNCLOS), which entered into force on 16 November 1994, sets forth the rights and obligations of states regarding the use of the oceans, their resources, and the protection of the marine and coastal environment. UNCLOS established that the Area and its resources are the common heritage of humankind. The Area is defined as the seabed and subsoil beyond the limits of national jurisdiction, and its "resources" as all solid, liquid, or gaseous mineral resources *in situ* in the Area at or beneath the

seabed, including polymetallic nodules. Polymetallic nodules were detected for the first time on the deep seabed by the HMS Challenger expedition in 1873: they are distributed on the surface or half-buried across the seabed, and contain nickel, copper, cobalt, and manganese, among other metals, principally in the Clarion-Clipperton Zone beneath the Pacific Ocean. Other minerals have since then been discovered in the Area: cobalt-rich ferromanganese crusts, which are mineral accumulations on seamounts and contain cobalt, nickel, copper, molybdenum, and rare earth elements; and polymetallic sulphides, which are formed through chemical reactions around hydrothermal vent sites, and contain copper, zinc, lead, silver, and gold.

Under the common heritage regime, UNCLOS provides that: no state can claim or exercise sovereignty or sovereign rights over any part of the Area or its resources; activities in the Area must be carried out for the benefit of humankind as a whole, irrespective of the geographical location of states, taking into particular consideration developing states' interests and needs; the Area and its resources are open to use exclusively for peaceful purposes by all states, whether coastal or land-locked, without discrimination; and financial and other economic benefits derived from activities in the Area must be equitably shared on a non-discriminatory basis.

To address certain difficulties raised by developed countries with the UNCLOS regime for the Area, the Agreement relating to the implementation of UNCLOS Part XI (the Area) was adopted on 28 July 1994 and entered into force on 28 July 1996.

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The Agreement addresses fiscal arrangements and costs to state parties, institutional arrangements, the ISA decision-making mechanisms, and future amendments of UNCLOS.

The ISA was established as an autonomous institution under UNCLOS Part XI and the 1994 Implementing Agreement to organize and control activities in the Area, particularly with a view to administering the resources of the Area. The Authority, based in Kingston, Jamaica, came into existence on 16 November 1994 and became fully operational in 1996. Among other things, the ISA is mandated to provide for the necessary measures to ensure the effective protection for the marine environment from harmful effects, which may arise from mining activities in the Area.

The ISA organs include the Assembly, the Council, the Finance Committee, the LTC, and the Secretariat. The Assembly consists of all ISA members and has the power to: establish general policies; set the two-year budgets of the Authority; approve the rules, regulations and procedures governing prospecting, exploration and exploitation in the Area, following their adoption by the Council; and examine annual reports by the Secretary-General on the work of the Authority, which provides an opportunity for members to comment and make relevant proposals.

The Council consists of 36 members elected by the Assembly representing:

- state parties that are consumers or net importers of the commodities produced from the categories of minerals to be derived from the Area (Group A);
- state parties that made the largest investments in preparation for and in the conduct of activities in the Area, either directly or through their nationals (Group B);
- state parties that are major net exporters of the categories of minerals to be derived from the Area, including at least two developing states whose exports of such minerals have a substantial bearing upon their economies (Group C);
- developing state parties, representing special interests (Group D); and
- members elected according to the principle of equitable geographical distribution in the Council as a whole (Group E).

The Council is mandated to establish specific policies in conformity with UNCLOS and the general policies set by the Assembly, and supervise the implementation of the Area regime.

The LTC is an organ of the Council and originally consisted of 24 members elected by the Council on the basis of personal qualifications relevant to the exploration, exploitation, and processing of mineral resources, oceanography, and economic and/or legal matters relating to ocean mining. The LTC was expanded to 30 Members at the 22nd session. The LTC reviews applications for workplans, supervises exploration or mining activities, assesses the environmental impact of such activities, and provides advice to the Assembly and Council on all matters relating to exploration and exploitation. The reports of the LTC to the Council are discussed during the annual sessions of the Authority.

The ISA has been developing the “Mining Code,” which is the set of rules, regulations and procedures to regulate prospecting, exploration and exploitation of marine minerals in the Area. To date, the Authority has issued Regulations on Prospecting and Exploration for Polymetallic Nodules (adopted on 13 July 2000, updated on 25 July 2013); Regulations on Prospecting and Exploration for Polymetallic Sulphides (adopted on 7 May 2010); and Regulations on Prospecting and Exploration for Cobalt-

Rich Ferromanganese Crusts (adopted on 27 July 2012). The regulations include the forms necessary to apply for exploration rights, as well as standard terms of exploration contracts; and are complemented by the LTC recommendations for the guidance of contractors on assessing the environmental impacts of exploration. The ISA is in the process of developing exploitation regulations.

22ND SESSION: At its 22nd session (11-22 July 2016), the Assembly, *inter alia*, elected Michael Lodge (United Kingdom) as Secretary-General. The Council, *inter alia*, welcomed the LTC’s work on the framework of the exploitation regulations, requested the LTC to continue this work as a matter of priority, and endorsed the LTC’s list of priority deliverables, including:

- a zero draft of the exploitation regulations and standard contractual terms;
- financial modeling for proposed financial terms and a payment mechanism;
- data management strategy and plan;
- environmental management issues, including strategic environmental assessment, criteria/measures for the precautionary approach, establishment of regional environmental assessment processes and regional environmental management plans (REMPs), and options for an environmental impact assessment (EIA) process, including public participation; and
- the establishment of a legal working group on responsibility and liability.

23RD SESSION: At its 23rd session (8-15 August 2017), the Assembly discussed, among other items, the final report of the first periodic review of the ISA under UNCLOS Article 154, and adopted decisions addressing transparency and environmental issues. The Council considered the first report of the Secretary-General on the implementation of the Council’s decision adopted in 2016, and draft exploitation regulations, which were released by the Secretariat in the form submitted to the LTC that convened from 31 July - 9 August 2017. The draft exploitation regulations were open for stakeholder comment on the basis of a series of general and specific questions proposed by the Secretariat. The Council also adopted a decision on a revised meeting schedule to engender a mutually responsive dialogue between the Commission and the Council on the draft exploitation regulations.

ISA-24 (PART I) REPORT

Ariel Fernández (Argentina), Council President for the 23rd session, opened the meeting on Monday, 5 March. Canada nominated, and delegates elected by acclamation, Olav Myklebust (Norway) as Council President for 2018. President Myklebust underscored that the “the world is now watching” the work of the ISA and the Council will have to “deliver,” particularly with regard to the draft exploitation regulations. The Council adopted the provisional agenda (ISBA/24/C/L.1) with no amendments.

Delegates elected as Council Vice-Presidents: Brazil for the Group of Latin American and Caribbean countries (GRULAC); Poland for the Eastern European Group; Côte d’Ivoire for the African Group; and India for Asia-Pacific. Ahmed Farouk (Egypt) was elected to the LTC, following the resignation of Mahmoud Samy (Egypt), to serve the remainder of his term (ISBA/24/C/2).

STATUS OF EXPLORATION CONTRACTS

On Monday, ISA Secretary-General Michael Lodge reported on the status of contracts (ISBA/24/C/5). Cameroon emphasized: marine environment management; the continued need for scholarships to enhance the exploration and exploitation capacity

of developing countries; and modalities for approving contract extensions, in view of the anticipated transition to the exploitation phase. The Council took note of the report.

REPORT OF THE SECRETARY-GENERAL

On Monday, ISA Secretary-General Lodge introduced documentation on the implementation of the 2017 Council decision relating to the LTC Chair's summary report (ISBA/24/C/6) and a preliminary strategy for the development of REMPs for the Area (IBSA/24/C/3). The Netherlands suggested greater prioritization of liability and effective control, considering them vital for developing the exploitation regulations. Chile drew attention to a resolution adopted by the European Parliament calling for ceasing licenses for deep-seabed prospecting and mining. Japan commended progress on the data management strategy, ensuring transparency based on scientific evidence, and requested inclusion of data and analysis from member countries into the ISA's reports. Australia supported developing the ISA database, and, with India, training women to conduct marine scientific research (MSR).

REGIONAL ENVIRONMENTAL MANAGEMENT

PLANS: Lodge underscored: the need to develop REMPs coherently, collaboratively, and transparently; efforts to include high-quality data; the need for resources to support workshops, data collection, and developing countries' participation; and a short-term strategy and recommendations for 2108, including convening an international workshop on a methodology for developing REMPs in all parts of the Area where there are contracts for exploring polymetallic sulphides. He also reported on efforts with the China Ocean Mineral Resources Research and Development Association (COMRA) on developing a REMP for cobalt-rich ferromanganese crust zones in the Pacific Ocean, with a workshop scheduled from 26-29 May 2018 in Qingdao, China.

China reiterated commitment, as a sponsoring state, to contribute towards developing REMPs to ensure the protection of the deep-seabed environment. Australia stressed the importance of developing REMPs based on the best available science. Focusing on the importance of REMPs and on the need to overcome practical difficulties in their development, Jamaica underscored: the ISA's role in regional ocean governance; the impacts of mining in the context of the "global ocean"; and the need to ensure consistency and common standards in developing robust REMPs.

Noting that REMPs are an important part of developing a commercial activity, Norway highlighted the need to collect experiences and identify knowledge gaps, connecting all relevant contributors and linking up with other processes and organizations. Singapore and the Republic of Korea emphasized the progress in developing REMPs will help guide contractors that currently undertake exploration activities. Supported by the Deep Sea Conservation Coalition (DSCC), South Africa called for integrating REMPs in the exploitation regulations. The DSCC urged putting in place REMPs for each area before accepting any mining application.

France called for greater transparency in developing REMPs. Cameroon pointed to coherent development and implementation of REMPs, as well as to reliability and coherence in data and information management. Commenting on the preliminary strategy for developing REMPs, South Africa stressed the importance of conserving the marine environment and suggested establishing an environmental workstream under the ISA. Brazil,

on behalf of GRULAC, noted the need for regional consultations on REMPs.

WORKSHOPS: Singapore stressed the importance of holding workshops for more informal and in-depth discussions, and the strategy to expand ISA's strategic partnerships. Chile suggested that the Authority raise funds to produce its own reports on environmental impacts related to deep-sea mining and to develop the mining code, noting financial limitations for developing countries' participation, adding, supported by the DSCC, that, in the interest of transparency, all workshops should be reported on at a side-event whenever possible. Noting online publication of the report of a recent London workshop, the UK agreed on the need for transparency and timely reporting from workshops. Australia welcomed progress, increased transparency, and forthcoming workshops, and, supported by the DSCC, stressed the importance of making broad invitations to workshops, including to environmental NGOs. The Pew Charitable Trusts highlighted: the unprecedented task of developing exploitation regulations, including financial, environmental, and reporting issues; the importance of environmental protection, global governance and international cooperation; and a pledge of US\$100,000 to support developing countries' participation in ISA-sponsored and related workshops.

Final Outcome: The Council President's statement on the work at this meeting notes that the Council takes note of the preliminary strategy, requesting the Secretariat to: explore ways to broadly disseminate workshop outcomes; encourage a wide range of participants in workshops; and develop REMPs in a transparent manner under the ISA's auspices in light of its jurisdiction under UNCLOS.

COMPLIANCE: The plenary discussed compliance by contractors (ISBA/24/C/4) on Monday, Thursday and Friday, with discussions focusing on mandates and responsibilities, occurrences of non-compliance, penalties, and confidentiality.

Mandates and responsibilities: Singapore suggested that, when the annual reports or the periodic reviews indicate potential cases of non-compliance, the ISA could provide feedback to the respective sponsoring state, and could initiate a dialogue to plan further action. Mexico proposed that management controls for contractors include risk mapping, periodic reviews, and internal and external audits. China underscored that activities in the deep seabed should also be encouraged, and compliance should be dealt with in strict accordance with UNCLOS. The DSCC questioned the ISA's capacity to independently verify contractors' reports, emphasizing the role of sponsoring states in this respect. The DSCC also pointed to a lack of enforcement action to date, recalling that the Council had already indicated that it cannot discharge its duties without information on non-compliance. He called for holding open LTC meetings and providing more detailed reporting from the LTC on issues of non-compliance. Jamaica drew attention to the ISA's economic planning commission, which is yet to be established, noting it could help better define the LTC's role.

The African Group recommended inviting the Council to "request," rather than "consider requesting," further information on the reasons for delays in implementing workplans and for reductions in projected expenditure. He also suggested limiting the Secretariat's discretion regarding the need to provide an annual report to the Council identifying instances of alleged non-compliance and the regulatory action that is "recommended to be taken," including any monetary penalties to be imposed by the Council, which was supported by Brazil, Australia, Norway,

and Argentina. Brazil suggested deleting, supported by China, or redrafting, supported by Norway, language inviting the Council to request contractors to provide more information on the reasons for delays in implementing workplans, noting that usually the Secretary-General or the LTC Chair contact the contractors. The Republic of Korea pointed to data-sharing to ensure transparency in managing mining activities in the Area, as long as contractors' rights are protected and activities are not unnecessarily constrained.

Secretary-General Lodge recalled that sponsoring states have an obligation to ensure contractors' compliance, noting that their measures may differ. The DSCC requested sponsoring states to ensure compliance with regulations. Brazil questioned the need to request sponsoring states to provide details of any measures taken to ensure compliance under exploration contracts, as this should only apply in cases of non-compliance. Cameroon proposed "inviting" sponsoring states to provide such information. Tonga suggested clarifying the type of information to be submitted by sponsoring states and the form of submission. During consideration of a revised draft on compliance on Thursday afternoon, the African Group, opposed by Brazil, requested reinstating the request to sponsoring states to provide details of any measures taken to ensure compliance under an exploration contract. China suggested adding reference to sponsoring states' responsibilities in relation to addressing respective responsibilities of the Secretariat, the LTC, and the Council.

Establishing non-compliance: Noting the complexity of the subject, Secretary-General Lodge emphasized the need for distinguishing failure or refusal to comply from inadequate or incomplete reporting performance. India underscored the need to: take into account contractors' views; and, with China, distinguish inadequate or incomplete performance against an approved workplan from non-compliance. Tonga called for a validation process to ensure that alleged non-compliance is indeed non-compliance. Norway pointed to communicating cases when alleged non-compliance was disproven. China said that reporting should only reflect cases of non-compliance on an *ad hoc* basis. Brazil questioned whether unforeseen activities extending beyond the workplan could be considered as non-compliance. France, with Italy, drew attention to "alleged" non-compliance and the issue of evidence. The African Group maintained that non-compliance is alleged until affirmed by the Council. Secretary-General Lodge clarified that only alleged non-compliance can be reported and no sanction can be imposed until due process has been exhausted.

On the draft recommendations, India recommended reference to the need for a more effective validation process for distinguishing non-compliance from inadequate or incomplete performance "arising out of technological challenges" against an approved workplan.

Penalties: Argentina requested an explanation of the criteria for applying penalties against contractors. India, supported by the Republic of Korea, voiced concerns about penalties for non-compliance, calling for leniency in light of technological challenges, taking into consideration that during the exploration phase commercial benefits are not accrued. China explained that Chinese contractors are doing their best to meet compliance obligations, cautioning against a simplistic approach to compliance, which was supported by the Republic of Korea. France called for: a clearer understanding of the form and function of monetary penalties.

Confidentiality: Norway and Cameroon highlighted the need to balance confidentiality and reference to an exploitation contract as a public document. Noting that different understandings of what confidentiality entails exist, Argentina suggested bringing the contractors into the discussions. Noting that previous cases of non-compliance have been of limited gravity, Germany indicated that the German contractor's exploration contracts and activities are publicly available. Italy proposed that reporting should include comprehensive and understandable information to the general public. The DSCC called for widely sharing non-confidential information on the marine environment and making publicly available contractors' annual reports. The UK questioned language on making contracts publicly available.

Final Outcome: In the Council President's statement on the work at this meeting, the Council:

- invites the Secretary-General to request contractors to provide more information on the reasons for delays in implementing workplans and for reductions in projected expenditure;
- takes note of the respective responsibilities of the Secretary-General, the LTC, and the Council in relation to reporting activities carried out under exploration workplans;
- requests the Secretary-General to report annually to the Council on identified instances of non-compliance and the recommended regulatory action, including any monetary penalties to be imposed by the Council;
- invites the relevant sponsoring states to provide information related to such non-compliance and measures taken to ensure compliance under an exploration contract;
- requests the Secretary-General to include in the reports on the status of all contracts, greater detail on the periodic review of implementation of plans of work for exploration; and
- requests the Secretary-General to explore with contractors the possibility of making contracts for exploration and associated programmes of activity publicly available, taking into account the confidentiality obligations under such contracts, and to report to the Council at its 25th session.

COOPERATION WITH OTHER INTERNATIONAL ORGANIZATIONS

On Monday, Alfonso Ascencio-Herrera, ISA Legal Counsel and Deputy to the Secretary-General, introduced a draft memorandum of understanding (MoU) with the Asian-African Legal Consultative Organization (ISBA/24/C/7), which was supported by the African Group, China, and Japan. Chile queried whether the MoU is part of a broader strategy, noting cooperation opportunities with the Permanent Commission for the South Pacific. Ascencio-Herrera recalled that similar forms of cooperation are envisaged under UNCLOS Article 169 (consultation and cooperation with international and non-governmental organizations). The MoU was approved.

DRAFT EXPLOITATION REGULATIONS

The draft exploitation regulations were discussed from Tuesday to Friday in an informal setting. On Tuesday, Council President Myklebust called on participants to provide the best possible guidance to the LTC to advance its work on the revised draft regulations for consideration in July 2018. He reported that the Bureau had proposed addressing the regulations informally to facilitate a frank discussion, and convey the outcome as a Council President's statement to the LTC, rather than as a decision formally agreed upon by the Council. He explained that this would avoid a drafting exercise in the Council, and noted

no objections. France queried the difference between a formal or informal session. The African Group noted that the Council should be in a position to adopt a decision or statement by the end of this meeting, which should be action-orientated and sufficiently advanced to guide the LTC forward.

The Secretariat introduced a briefing note to the Council on the submissions on the draft regulations (ISBA/24/C/CRP.1). Germany identified as gaps in the briefing note, the Council agenda, and draft regulations: environmental thresholds, spatial protection, and availability of best technology in the mining industry. He also: recommended releasing drafts with sufficient time for review, supported by Brazil and Australia; enquired about workshop schedules for 2018; and urged the Secretariat to ensure a timely and cost-effective working procedure. Brazil and Australia indicated that workshops cannot replace ISA decision-making or legal rules.

On Friday, Council President Myklebust introduced his statement as non-binding on any ISA body or representative of the full support of the Council or individual Member States, inviting delegations to keep their interventions to two-minutes and only share serious concerns on the draft or identify any gaps.

GENERAL VIEWS ON THE DRAFT REGULATIONS:

In order to “leave no-one behind,” South Africa emphasized the need for: respect of UNCLOS and the 2030 Agenda for Sustainable Development in developing the new regulations, taking into consideration benefit-sharing with humankind, which was supported by Brazil; an appropriate payment mechanism, which is to date insufficiently developed; and ambitious benefit-sharing rules. Cameroon emphasized: engaging in action-oriented and result-based deliberations, supported by Tonga, the UK, and Morocco; aligning with the spirit of UNCLOS, the common heritage principle, the Rio+20 outcome, and the 2030 Agenda, especially Sustainable Development Goal 14 (life below water), which was supported by Brazil; and restructuring the Secretariat to address future challenges. Morocco identified environmental protection and common heritage as cornerstones of the regulations, guided by the UN Ocean Conference’s Call for Action and the spirit of the UN General Assembly’s process on marine biodiversity of areas beyond national jurisdiction (BBNJ).

Mexico suggested: minimizing risks, given the uncertainties surrounding deep-seabed mining; and ensuring transparency, cooperation with various bodies and stakeholders, and developing countries’ full participation, including in benefit-sharing. France recommended clearly including in the regulations: environmental protection, common heritage, and the precautionary and polluter-pays principles; and sponsoring states’ environmental responsibility. Italy highlighted: short- and long-term standards for EIAs; the role of MSR; good industry practices; payments, administrative fees, and royalties; and stronger terms on closure. Belgium called for: developing an environmental monitoring and management plan; and transparent compensation provisions in cases of serious harm to biodiversity from exploitation.

India called for balancing and safeguarding interests, including those of contractors. China suggested: balancing benefits to humankind, sponsoring states’ interests, and contractors’ rights and obligations; giving more weight to best available scientific information to enhance marine environmental protection; and including a benefit-sharing mechanism, to reflect the common heritage principle. Norway considered the draft regulations adequate for an initial discussion to pave the way for profitable mineral production to benefit humankind, emphasizing that the regulations should serve contractors and investors, while

respecting existing UNCLOS environmental obligations. Japan noted the need for “sensible” regulations. Canada argued that the regulations need to take into account potential environmental impacts, the precautionary approach, and best available practices, as well as to balance commercial viability and effective benefit-sharing.

The DSCC called for a broad definition of “interested persons” to ensure public participation, requesting testing of mining equipment as part of an EIA before any exploitation license is approved. The International Union for Conservation of Nature (IUCN) recommended explicitly including in the review of applications a wide range of interests, including acknowledging the Convention on Biological Diversity criteria for ecologically or biologically significant marine areas and the World Heritage Convention criteria for outstanding universal value. The Interoceanmetal Joint Organization requested clarifications on exploitation applications without a prior exploration contract and the extension of exploration contracts.

On Friday, commenting on the President’s draft statement, Australia, supported by Jamaica and IUCN, recommended adding reference to “member states” in addition to “stakeholders,” when referring to the submissions made on the draft regulations in 2017, to distinguish decision-makers from stakeholders. Chile, supported by IUCN and the Sargasso Sea Commission, reiterated the need to focus on the protection of the marine environment and the common heritage of humankind. The African Group asked for: the operationalization of the Enterprise, supported by Brazil and Jamaica; and transparency in workshops invitations. Japan, supported by the International Cable Protection Committee, stressed the need to protect submarine cables, pipelines, and fisheries.

Final Outcome: In the Council President’s statement on the work at this meeting, the Council:

- highlights that the draft regulations must reflect UNCLOS and the 1994 Implementing Agreement, including the need to adopt necessary measures to ensure the effective protection of the marine environment from harmful effects that may arise from activities in the Area;
- highlights the need for a transparent and inclusive approach to drafting the regulations; and
- requests the LTC to: give due consideration to Member State and other stakeholder responses; outline the rationale for any amendment to the regulations in subsequent reports; and submit a working paper prior to July 2018, including a revised and annotated set of regulations, a briefing note on themes requiring further study, and other matters requesting the Council’s guidance.

UNDERSTANDING THE PATHWAY TO THE EXPLOITATION AND BEYOND: The Secretariat noted that practices in parallel industries and Member States’ experiences in the extractive industry sector could be drawn upon. Norway underscored the need for an ambitious, timely, and flexible exploitation workplan, despite current challenges related to transparency and environmental protection. Singapore called for: coherence between exploration and exploitation regulations, supported by Tonga, the UK, Australia, and India; explicit requirements for each phase; consideration of data collected in the exploration phase to produce pre-feasibility studies for exploitation; and regulation of exploration activities undertaken as part of the exploitation phase. IUCN noted that exploration regulations that are not yet fully implemented will play a role in the exploitation regulations.

Tonga underscored: further developing rules on the different exploitation stages, considering, subsequently, how to adapt to evolving business standards; the necessary information for an exploitation workplan, which is essential for the pre-feasibility study; health and safety requirements for crews and third parties that may be directly impacted by the proposed activities; clear timeframes; and environmental reports and audits, which must be updated at relevant stages of the contract. Jamaica prioritized clarity, transparency, inclusiveness, and predictability.

Australia queried how contractors would interact with other users of the Area, such as marine cable operators. The UK suggested setting deadlines for the ISA to respond to contractors' applications. China reflected on: regulating exploration and exploitation; defining mining and contract areas; and developing guidelines or procedures for setting up preservation reference zones (PRZs) and impact reference zones (IRZs).

On Friday, commenting on the President's draft statement, Germany, supported by Argentina and IUCN, raised concerns about requesting the LTC to ensure that the regulatory provisions are commercially viable, and proposed instead "ensuring that regulatory provisions are technologically, scientifically, and environmentally viable, taking into account commercial interests." The UK proposed referring to the need to "consider," rather than "ensure," commercial viability. Japan proposed requiring the LTC to ensure that regulatory provisions are technologically, scientifically, and environmentally viable, while considering commercial viability.

South Africa, supported by IUCN, requested express reference to the need to adopt necessary measures to ensure the "effective protection of the marine environment from harmful effects" that may arise from mining activities. Brazil recommended ensuring that UNCLOS Articles 142 (rights and legitimate interests of coastal states) and 147 (accommodation of activities in the Area and in the marine environment) are properly reflected in the draft regulations. IUCN recommended referring to the "implementation," rather than the "development," of the common heritage principle on behalf of humankind as a whole, calling on the ISA to act as the "custodian of humankind's values that go beyond exploitation."

Final Outcome: The Council President's statement on the work at this meeting requests the LTC, to the extent possible, to:

- reinforce the principle of the common heritage of humankind in the operative provisions of the regulations and in accordance with the Convention, prioritizing its implementation for the benefit of humankind as a whole in developing the regulations, including during the application process, how a workplan will contribute to the implementation of the common heritage principle;
- examine the interaction and cohesion between the exploration and exploitation regulations, notably with respect to: requirements for the exploration phase; the relevance of information from the exploration phase for the development of the document needed for an application for an exploitation workplan; the definition of "exploitation"; and regulations of exploration activities under an exploitation contract;
- identify the need for further guidelines or procedures to ensure that standards can evolve into good industry practices from commercial and environmental perspectives;
- consider the concept of "best available technology";
- ensure that regulatory provisions are technically, scientifically, and environmentally viable;
- consider the commercial viability of the regulatory provisions;

- consider a progressive reporting and auditing mechanism reflecting the stages of exploitation and reflecting the precautionary approach;
- collaborate with the Finance Committee, notably on a work programme for the development of the payment mechanism;
- provide the Council with a more detailed flowchart of regulatory processes;
- examine the approaches taken in the regulations to balance certainty, predictability, flexibility, and an adaptive approach;
- discuss with the Secretary-General the need to strengthen expertise and institutional aspects of the ISA to implement the regulations;
- ensure balance between contractors' rights and obligations;
- clarify health and safety standards of crew and third parties that may be directly impacted by proposed activities;
- examine performance guarantees, such as terms of closures and context of a closure plan;
- examine ways to pay reasonable regard to other activities in the marine environment, such as navigation, submarine cables, fisheries, and MSR;
- reconsider the basis of an administrative review mechanism in light of UNCLOS dispute settlement mechanisms;
- ensure appropriate reflection of UNCLOS Articles 142 and 147;
- clarify "contract of area" and "mining area";
- review deadlines; and
- elaborate on the categories of monetary penalties.

PAYMENT MECHANISM: Delegates considered modalities of payment mechanisms focusing on three options: mass-based, revenue based, and profit-based. The discussion was largely based on a technical presentation by Richard Roth, Massachusetts Institute of Technology (MIT), on the economics of mining polymetallic nodules. Roth noted hybrid models are feasible and added that monitoring challenges are mainly linked to the profit-based option. He reported progress in building three interconnected models: a cost model, a price-forecast model, and a cash-flow model. He suggested, as next steps, running models under different scenarios to provide guidance on the revenue-sharing mechanisms and rates.

The ensuing discussions focused on:

- the need for the payment mechanism to respect UNCLOS principles;
- the need to clarify the role of the Finance Committee with respect to the financial model;
- price projections;
- the need to further reflect on benefit-sharing modalities in light of the common heritage principle; and
- the need to include insurance-related costs in the cost model, as well as social benefits and negative impacts from mining both on land and in the deep seabed.

During the discussions, Chile asked about the competitiveness of deep-sea versus land-based mining, given the challenging working environment. Roth commented that most analyses show that, despite very high operating costs at sea, the task of collecting nodules is rather straightforward compared with some of the challenges associated with land-mining. Italy considered the market perspective fundamental, in particular for the payment mechanism. He also noted price volatilities in previous decades, the need for political adjustments and the fact that, by setting fees and royalties, the ISA becomes part of the cost construction for contractors.

Responding to Cameroon, Roth emphasized that: there are no guarantees in investment projects, but “our analysis makes decision-making more confident”; high-level third-party analysis of prices offers better projections than current prices; and further work is needed on sharing benefits within the common heritage regime.

Germany noted market price variability for manganese depending on its purity, with Roth responding that a rather pure manganese was taken into consideration, following a conservative approach given probable major impacts on the price of high-value, high-purity manganese.

Replying to Argentina, Roth highlighted:

- the need to include insurance-related costs in payment mechanisms;
- an attempt to distinguish between what percentage of the capital would be self-financed and what would have to be raised from the market;
- efforts to model uncertainties through a distribution of price forecasts with statistical simulation; and
- the need to include in the cost model social benefits and negative impacts from mining both on land and in the deep sea.

On a question on price risk mitigation from Côte d’Ivoire, Roth considered it challenging and speculative to hold back the product from the market, noting associated opportunity costs.

On states whose economies may be impacted by seabed mining, he noted the need to understand if prices will be affected, in order to quantify impacts, and, if necessary, consider including compensation. Egypt raised questions on: the monitoring parameters of the payment system; the existence of a database on all contracts and their revenues; and the fairness of revenues vis-à-vis the common heritage regime.

On Uganda’s concerns about impacts from sediment created by disturbance to the seafloor and mining operations discharging the processed water back into the oceans, Roth agreed on the need to include costs related to water treatment. Responding to China, he also underscored the need for more research to develop models for minerals other than polymetallic nodules and to address environmental impacts.

Reacting to the DSCC’s questions, Roth noted that: the cost of insurance is currently lumped into general administration costs, added as a multiplier to the calculated costs; a liability fund could be included in the cash flow, and future scenarios should include different levels of liability; and valuations of broader ecosystem services or genetic resources have not been included in the model, which tries to identify the net, pure, and direct economic numbers, informing the final decision on which benefits should be pursued and which costs should be avoided.

Responding to several interventions, Roth emphasized that, once mining commences, the flow of money in the payment system will depend upon which payment system is selected, noting that profit calculations require specific rules. He indicated that licensing fees could be utilized, subject to rules developed by the ISA, for heritage or recreational sites; and that the models need to be adapted to reflect differences on the cost of minerals other than nodules. He also remarked that additional expertise is needed for valuing the common heritage. On the UK’s question on international accounting standards, Roth also noted that: existing practices reflect specific national practices; the ISA would be responsible for selecting preferred models or a combination of rules; and this topic requires further reflection.

The African Group, supported by GRULAC, emphasized that the payment mechanism should: be guided by UNCLOS;

be fair to both contractors and the ISA; provide means for defining compliance by the contractor; and ensure that rates of payment are in the range of those prevailing in the land-based mining sector. He called for shielding states from the adverse effects of price reductions of minerals caused by activities in the Area, and for funding costs associated with closure and decommissioning. Tonga suggested developing a special section on audit and inspection measures used for the valuation of equipment; providing certainty and predictability in developing a payment mechanism; and striking a balance between environmental protection and economics.

Stressing that the payment regime must be clear, transparent, and easy to administer and implement, Singapore called for: addressing polymetallic sulphides and ferromanganese crusts in the development of a financial model; and taking into account the relationship between the type of contractor and costs. Norway called for balancing the needs of common heritage, represented by the Authority, and of contractors. The Republic of Korea considered varying technological requirements for mining different minerals, and requested: ensuring coherence regarding data collection and definitions in the regulations; and considering in the LTC the exploitation code separately from exploration rules.

Belgium called for a fair, transparent, and balanced payment mechanism, containing incentives for lowering environmental impacts and allowing the development of environmentally-friendly technologies. Bangladesh proposed consideration of: benefit-sharing rules in developing a payment mechanism; non-confidentiality rules; and contractors’ financial competency when considering application processes, since contractors should not be allowed to continue activities until they have fully restored environmental damage.

Noting the existence of externalities in deep-seabed mining, the DSCC queried whether more detailed information on the methodology used will be provided, as well as the terms for servicing capital flows. IUCN questioned when the Authority will address environmental costs.

Roth noted that: the cost of debt servicing was included in the model, as were costs related to pre-feasibility and feasibility studies, inviting views on any potential underestimations; externalities have not been addressed; and running a multitude of scenarios to map out different royalty or profit rates is the way forward. The Netherlands enquired whether upfront costs in MIT’s models have considered existing legal obligations under UNCLOS on exploration, particularly related to testing mines and processing systems. Roth replied that the presented models include upfront costs on physical mining such as pumping slurry water, based on existing rules, and suggested further research to break down costs in detail. Canada called for more analysis on the upfront costs.

Towards the end of the debate, the African Group expressed preference for a hybrid of a revenue-based and a profit-based payment system. France supported a combination of the three models with “real benefits,” underscoring the need to avoid exploitation that incurs losses for land-based producers and to factor in environmental considerations. Canada preferred a hybrid approach to balance industry interests and benefit-sharing obligations.

Calling for drawing on discussions in other fora, Australia emphasized that royalties “need to be one of the major elements on the table,” since they are mentioned with regard to financial terms of contracts under the 1994 Implementing Agreement.

Norway favored royalty payments because they are simple, not overly burdensome, and already utilized at the national level. Japan preferred a revenue-based mechanism, acknowledging the need for contractors to comply with reporting obligations and cautioning against imposing excessive financial constraints on them. China noted that: a model exclusively based on royalties may not be helpful for a fair payment mechanism, and may create potential investment disincentives; incentives should be available for high-risk activities; and the common heritage principle should be implemented as enshrined in UNCLOS.

Tonga recommended: exploring other options for consideration by the Council at the next session, acknowledging merit in the revenue-based model; and further elaborating reference to “special circumstances” in the draft regulations on payment of royalties. Singapore favored: developing a transitional approach, without disincentives for industry, where a royalty-based mechanism guarantees a minimum flow of resources until more sophisticated know-how is developed to take into account profitability; and further analyzing whether the options of mass-based, revenue-based, and profit-based models can meet the objectives of a payment regime as set out in UNCLOS.

The UK expressed doubts over the credibility and workability of the profit-sharing model, bearing in mind the difficulty of determining profits, and questioned how the Authority’s costs would be addressed in this model. India suggested relating annual fixed fees and royalties to the active mining area, rather than the total size of the contract area, rationalized by the value of the contained metals by square meter. Argentina noted the wide range of empirical evidence on mechanisms for land-based mining companies to make payments.

Noting major environmental damage that would be considered irreparable should be prevented, Chile suggested royalties progressively imposed at 5-15% of sales, depending on market value. Norway clarified that royalties ranging from 5-15% used nationally refer to the oil and gas sectors, which have different profitability than deep-seabed mining.

Establishment of a working group: The African Group, with China, Belgium, and Norway, supported the establishment of an *ad hoc* working group to work with MIT with the involvement of the Finance Committee, particularly in considering administrative fees. Tonga and France supported an expert group, with Australia underscoring the importance of a formal link to the current process and a mandate to make recommendations to the Council. Argentina considered it premature to formally establish a working group, while Brazil and Jamaica recommended considering the establishment of the ISA economic planning commission foreseen under UNCLOS. The UK pointed to an option for the LTC and Finance Committee to meet in an open setting.

On Friday, commenting on the draft President’s statement, Canada proposed that the LTC not only investigate recent changes to mining fiscal regimes, but also developments in other extractive industries. The DSCC suggested that the LTC assess the underlying assumptions and data of the MIT models with regard to quantifying environmental and social impacts and the valuation of the common heritage.

Final Outcome: In the Council President’s statement on the work at this meeting, the LTC is requested, to the extent possible, during its upcoming meetings to:

- assess underlying assumptions, costs, price forecasts and cash flow components of the model, with special attention to metal pricing, insurance, production, costs of pre-feasibility and

feasibility analyses, environmental costs, currency fluctuations, considerations of mining efficiencies, mechanisms to compensate the common heritage, means to achieve neutrality, the impact of the ISA in the costs of contractors, support to MIT collating data, and incentives mechanisms for reducing environmental impacts;

- perform the functions of the economic planning commission on examining how to address potential impact of mineral production from the Area and update the Council by July 2018;
- examine the regulatory provisions under the financial terms of an exploitation contract, including, *inter alia*: clarification of “special circumstances,” “commercial production,” “relevant mineral,” “monetary value,” “financial capability,” resource and reserves; as well as consideration of internationally accepted accounting principles;
- investigate changes to mining fiscal regimes to identify best practices;
- make arrangements for continued cooperation between the ISA and MIT; and
- recommend best payment mechanisms in light of the need to fulfill UNCLOS’ principles.

ROLE OF SPONSORING STATES: The African Group noted that the sponsoring state should assist the Authority in exercising control of activities in the Area, taking into consideration the precautionary approach, best environmental practices, and the obligation to ensure recourse to compensation for damage from pollution. He suggested sharing information aimed at facilitating compliance.

Tonga called for clear roles and responsibilities related to monitoring and enforcement, and for cooperation between the ISA and sponsoring states. Australia welcomed references to sponsoring states’ national legislation, noting that the system should also help contractors decide which sponsoring state to approach. Belgium stressed the need for: a balanced relationship between the ISA and contractors; clarity on monitoring rules to avoid “sponsor shopping”; and more attention to environmental regulations. China pointed to due diligence, arguing that sponsoring states that have taken necessary and appropriate measures should not be held responsible for contractors’ misconduct. Poland underscored equal opportunities, proper legal frameworks, and uniform and non-discriminatory provisions. The UK noted the importance of keeping sponsoring states informed, and the relevance of examples from the fisheries industry on monitoring.

Jamaica drew attention to the Area’s unique regime and the need for coherent rules on the responsibility of contractors, sponsoring states and the ISA. Japan asked for greater clarification of sponsoring states’ obligations, and on their relationship with the ISA and other stakeholders. The DSCC urged developing rules on transparency and liability.

Termination: The Republic of Korea noted that a longer period for sponsorship termination for exploitation could impose unnecessary burdens and obligations on sponsoring states. Australia preferred not to allow automatic sponsorship renewal in cases of environmental harm, highlighting the role of flag and coastal states, and suggesting the ISA should forward contractors’ annual reports to sponsoring states to increase transparency.

Germany underscored the need to: revise the roles, responsibilities, and competencies of the Authority and the sponsoring states regarding inspection and liability; with the UK, consider the issue of multiple sponsorships; create a level-playing

field for contractors from different states; ensure consistency between national legislation and ISA regulations; and enable the ISA regulations to supersede national legislation, when necessary.

Tonga, Germany, and China supported convening a workshop for sponsoring states, contractors, and the Authority. Singapore, with the UK, noted that the workshop should also be open to port, flag, and coastal states.

Final Outcome: In the Council President's statement on the work at this meeting, the LTC:

- is requested to formulate a matrix of duties and responsibilities of the Authority and sponsoring states, and consider extending it, where practicable, to reflect the roles of flag states and coastal states;
- may wish to address: issues related to multiple sponsoring states, and the adoption and implementation of uniform application rules, regulations and procedures of the Authority to ensure level-playing field for contractors; and
- is requested to examine, among other issues, the roles of the Authority and of the sponsoring state, as well as consider the issue of international responsibility.

STANDARDS, RECOMMENDATIONS, AND

GUIDELINES: Japan preferred that the Council adopt legally binding regulations, and non-legally binding standards or guidelines are in a separate document. Belgium, supported by the DSCC, recommended that environmental standards and thresholds should be legally binding. The Netherlands suggested that the regulations should contain provisions to facilitate the future adoption of guidelines, standards, or recommendations to avoid having to amend core regulations; and that recommendations should be adhered to. China suggested balancing predictability and flexibility in formulating standards and regulations, noting that they should be approved by the Council, but some will merely be recommendations. Australia pointed out that the LTC makes recommendations to the Council. South Africa preferred an appropriate mix of performance- and procedure-related standards, supporting guidelines to be developed by consensus. Uganda emphasized the importance of legally binding regulations. The UK stressed that relevant standards, applicable to all, may be incorporated in contracts to level the playing field.

Emphasizing the need for flexibility to balance competing interests, Singapore called for standards and guidelines, which can be easily amended, and a stable and predictable regulatory framework. She proposed: a fixed review period for the guidelines; grandfathering certain standards for early adopters; and developing a preliminary list of matters to be covered by the standards.

Germany supported: legally binding standards for contractors; a review mechanism, which does not entail reopening the regulations; revising standards to reflect technological advances; and looking at the International Maritime Organization's (IMO) experience to determine a suitable process for the development of standards and guidelines. Cameroon emphasized that standards and recommendations need to be binding, transparent, and applicable to all. India called for standards and guidelines to be site- and resource-specific, flexible, and designed to incentivize efficient and environmentally friendly technologies.

On Friday, commenting on the draft President's statement, the DSCC suggested that the LTC consider the value of establishing standards through legally binding recommendations or guidelines that can be updated as new information becomes available, to provide regulatory certainty and a level playing-field.

Final Outcome: The Council President's statement on the work at this meeting states that the Council notes the need to develop an appropriate mix of performance- and procedure-related standards, including an inclusive and transparent process for their development, and a need to re-examine the legal status of the LTC recommendations for guiding contractors under the exploitation regime. The LTC is:

- requested to consider the development of "guidelines" under a consensus-based approach;
- requested to consider a mechanism to strike a balance between flexibility, adaptability, and stability in the regulatory framework in the review, modification, and adoption of standards and guidelines;
- invited to formulate an inclusive and transparent process for developing standards and guidelines, together with an indicative list of subject matter for standards and guidelines; and
- invited to consider the timing of a workshop dedicated to the development of standards and guidelines.

ENVIRONMENTAL POLICY: The Secretariat invited the Council to reflect on the need for, and content of, an environmental framework and how the framework, particularly REMPs, would be incorporated in the draft regulations. Australia stated that regulations cannot be "rushed" at the expense of core environmental principles and called for the incorporation of the precautionary approach and further definition of standards and rules on how to apply these regulations, as well as greater guidance on how to conduct independent assessments. The African Group suggested that the LTC develop the content of a robust environmental framework. Expressing concern at less restrictive provisions in the draft regulations than those on exploration, Brazil recommended: increasing references to common heritage; with Poland, defining exploitation areas, which should only cover areas already under exploration; and avoiding an excessive assignment of responsibilities to the Secretary-General. Argentina focused on inconsistencies in the regulation on assessment of applicants and on accompanying documents for an exploitation workplan. Germany highlighted: the need to improve provisions regarding best environmental practices and best available technology; the content of the environmental management and monitoring plan; as well as the importance of structured and comprehensive regulations for establishing a level playing field.

Underscoring the importance of establishing an environment management strategy, Jamaica called for: coherence between environmental regulations and standards applicable within national jurisdiction with those being developed for areas beyond national jurisdiction; deciding upon whether environmental considerations will be dealt with as a separate set of regulations or as part of the exploitation regulations and in what form; and, with the UK, a single, binding, uniformly applied standard to ensure a level-playing field. Japan suggested: setting out new standards in an annex that could be amended as needed; and focusing on technology to enhance environmental monitoring during exploitation. Poland favored incorporating technical and administrative details in the draft regulations, clearly defining who will be in charge of implementation. Bangladesh suggested: ensuring that contractors have the capacity to meet environmental standards; independently reviewing monitoring programmes; further developing definitions on best environmental practices and standards, taking into account scientific data and developments in

other processes; and ensuring coherence with the UN negotiations on BBNJ.

China called for the LTC, and possibly a workshop, to consider coherence between PRZs and IRZs. Calling for an effective, robust and balanced environmental protection framework, ensuring inclusive public consultation, Tonga suggested the development of an environmental policy framework based on best available science and the precautionary principle, taking into account the unique characteristics of each geographical location and marine ecosystem. Cautioning against the use of chemicals in deep-seabed mining, Chile requested that contractors explain their mining procedures as part of the contracting process. Jamaica underscored the urgency of finalizing the regulations.

Prioritizing the minimization of negative environmental externalities and societal costs, taking into account inter-generational equity, Italy underscored the need for: clear monitoring plans regarding chemical emissions, vibrations, geo-monitoring and seabed deformation; health and safety regulations; risk assessment and management plans; liability; and, with Japan, appropriate communication and outreach. Stressing that the discussion should be about common heritage and not solely about trade, Cameroon highlighted: verification to allow for monitoring, inspection, and evaluation; economic studies to take into account potential negative effects on land-based mining activities; and scientific capacity, enabling follow-up activities and potentially the establishment of the Enterprise.

The Pew Charitable Trusts stressed: the need to require contractors to consider new environmental information annually; the importance of real-time data from vessels; the problematic nature of a restrictive definition of “interested persons”; environmental regulations as a living document, capable of absorbing new scientific information and including REMPs; integration of ecosystem services valuations in the calculations; and intergenerational justice. IUCN emphasized: knowledge gaps in current understanding of the deep ocean; the importance of a precautionary approach; and the need to respect UNCLOS Article 145’s obligation to ensure the “effective protection of the marine environment from harmful effects” that may arise from deep-seabed mining. The DSCC raised concerns about marine biodiversity loss and the gaps in the financial models with regard to environmental costs.

Discharges: The Netherlands and the Sargasso Sea Commission proposed regulating the dumping of waste from deep-seabed mining in the regulations, following the approach of the 1996 London Dumping Protocol. The Republic of Korea suggested: further elaborating the exceptions for discharges, noting that they should be restricted on a precautionary basis, but not completely prohibited; collaborating with the IMO on the implementation of the London Dumping Protocol; further deliberating the duration of environmental liability insurance for exploitation contracts; and continuing a regular review process 10 years after the commencement of commercial production.

REMPs: Belgium prioritized consideration of REMPs in developing the draft regulations. The African Group suggested requesting contractors to propose activities within the framework of REMPs. Considering REMPs a prerequisite for the precautionary approach, Germany recommended: with Panama, adopting them prior to granting exploitation licenses; and holding targeted workshops to develop relevant methodology. Jamaica suggested feeding REMP outcomes into a strategic environmental management plan. Australia favored establishing a scientific body to evaluate REMPs, whereas Japan preferred instead requesting

scientific evidence to support Member States’ proposals for publication on the ISA website. Singapore encouraged better understanding of the relationship between REMPs, guidelines, and standards, as well as the timeframe for REMPs’ development. China suggested developing REMPs holistically, expressing openness to including them in the regulations.

The UK proposed addressing the link between REMPs and the ISA’s environmental policy, welcoming relevant workshops. Tonga highlighted information and data collection in relation to REMPs, noting they are instrumental for EIAs, environmental impact statements, and environmental management plans.

EIAs: France requested reference to regional conventions addressing marine ecosystems and attention to potential mitigation activities. Panama emphasized that contractors should be required to submit an EIA, which provides for mitigation and compensation measures.

On Friday, commenting on the President’s draft statement, India suggested that the LTC keep in mind technological realities and challenges when considering a specific provision regulating mining discharges. The DSCC suggested that the LTC also consider: defining “serious harm” and elaborating a criterion on preventing significant adverse change; including a general assessment that the effective protection of the marine environment from harmful effects is consistent with UNCLOS Article 145 among the considerations that the LTC makes for examining an exploitation regulation; and implementing clear binding environmental thresholds, standards, and obligations.

France considered the section on environmental protection insufficient. Australia observed limited references to environmental protection, reemphasizing the importance of: the role of REMPs at the core of the regulations; the precautionary approach; regular reporting and review of contractors’ environmental performance; data and good industry practices; and the definitions of “interested persons,” “good industry practice,” “best environmental practice,” “independent,” and “serious harm.” Jamaica stressed the need to expand the section on environmental protection, and to add reference to transparency and inclusiveness with regard to REMPs.

Final Outcome: In the Council President’s statement on the work at this meeting, the LTC is requested to:

- bear in mind the importance of environmental protection, which is recognized as a core part of the draft regulations;
- ensure that the precautionary approach and best available scientific evidence are adequately reflected in the regulations and accorded appropriate weighting;
- reflect on the relevant content of an environmental policy framework, taking into account the Authority’s draft strategic plan, with a view to making recommendations to the Council;
- assess Member States’ and stakeholders’ comments in connection with the incorporation of REMPs to make recommendations to the Council;
- examine and expand, when appropriate, the regulations to reflect effective marine environment protection, to: determine requirements for the delivery of a comprehensive EIA, including applicable standards; assess the requirements for a comprehensive environmental management and monitoring plan; and review the definitions of “interested persons,” “good industry practice,” “best environmental practice,” “independent,” and “serious harm,” in light of the stakeholders’ comments;
- elaborate the general principles of environmental matters, particularly focusing on the effective protection of the marine

environment from harmful effects under UNCLOS Article 145, and consider their operation;

- consider regulating mining discharges in accordance with applicable standards, including possible alignment with existing relevant legal instruments, keeping in mind technological realities and challenges;
- consider the frequency in reporting and review of environmental performance; and
- underline the importance of making data available to underpin environmental protection through informed decision-making.

ROLE OF ISA ORGANS: On Friday, Brazil and Cameroon enquired about the role of the Assembly and the functions of the Enterprise. The UK underscored transparency in the Authority's decision-making. Cameroon suggested that the LTC should examine a more balanced allocation of power, as well as accountability measures.

Legal and Technical Commission: Belgium requested taking into account the rules on confidentiality, which should be determined by the Secretary-General, and called for the LTC to be supplemented with environmental expertise. Pew Charitable Trusts highlighted the need to enhance the capacity of the Authority and the LTC, noting that the LTC is hard pressed to meet its obligations and deal with the considerable task of passing judgment on legal and technical aspects of the mining code. Chile also recommended ensuring transparency and impartiality of the LTC, avoiding any links between LTC members and contractors.

Scientific advisory body: The DSCC and Germany recalled the earlier proposal by Australia and Belgium to establish a scientific advisory body. The DSCC emphasized that the ISA needs to be "fit for purpose" to address issues requiring high specialization, noting that examples of scientific and advisory committees could be drawn from regional fisheries management organizations and the IMO.

Secretary-General: The African Group, with Chile, Panama, and Brazil, pointed to an excessive delegation of powers to the Secretary-General, and suggested the LTC explore which functions could be delegated. Jamaica, supported by Tonga and Panama, recalled that UNCLOS portrays the Secretary-General as a chief administrative officer and that the Secretary-General administers the LTC, which is under the Council's authority.

Argentina, with Egypt and Chile, suggested that the Secretariat outline potential situations where urgent decisions may need to be taken in between Council meetings. Chile expressed reservations about giving the Secretary-General a "blank cheque" to resolve potentially complex issues, pointing out that assistance could be sought from the Permanent Representatives based in Kingston. Egypt questioned whether the Secretariat's job description was being redesigned. Argentina, supported by the Netherlands, requested the Secretariat to prepare a document, by the next Council meeting, setting out the expected roles and functions for the Secretariat regarding the exploitation code and the need for a "rapid response mechanism" to deal with instances that arise in between Council meetings, particularly with respect to environmental damage.

The Secretariat clarified that appropriate actions would be considered for the LTC to take forward, with the aim of providing guidance to the Council, emphasizing that the overarching issue in the draft regulations is "what, how, who, and when to regulate." He further added that the Secretariat would provide a list of issues or subject areas in the President's Statement on which decisions may need to be taken in between Council meetings such as on: breach of thresholds; compliance notices; and violations of terms

or conditions of contracts. Council President Myklebust indicated that the Secretariat will have to decide after the LTC meeting whether discussions are mature enough to produce a document on the roles of ISA bodies for consideration by the Council in July.

Final Outcome: In the Council President's statement on the work at this meeting, the LTC is:

- invited to clarify the roles of the Council, Secretary-General and, as appropriate, the Assembly, and consider specifying which body is responsible when reference is made to the ISA; and
- required to review: the balance of authority, in particular between the Council and the Secretary-General, taking into account that the Council is the executive body of the ISA; and the need for efficient decision-making, including possible provisional decision-making authority for the Secretary-General.

CLOSING PLENARY

On Friday morning, Secretary-General Lodge provided an overview of the Council's discussions on the regulations, highlighting:

- constructive and well-considered contributions;
- the clear and consistent request to respect the letter and spirit of UNCLOS and the 1994 Implementing Agreement;
- the need to take small steps, as "the task is not as difficult as it looks at first sight";
- the objective of the informal format to enable the Council to "work hand in hand" with the LTC in developing the regulations, with a view to eventually ensuring broad acceptability and expeditious adoption by the Council; and
- the successful outcome of the exercise, which provides clear directions from the Council to the LTC to make more rapid progress.

In terms of next steps, Secretary-General Lodge announced:

- the imminent publication of the 2017 Berlin workshop report on IRZs and PRZs;
- the publication of the report of the two meetings of the legal working group on responsibility and liability, after review by the LTC;
- the organization of an expert workshop tentatively scheduled in April 2018;
- a workshop on the cobalt crusts REMPs in China in May 2018;
- a high-level meeting among the heads and legal directorates of the ISA, IMO, and London Convention/Protocol Secretariat in June 2018 to develop a matrix of relevant responsibilities as a basis for future discussion by the Council;
- a workshop with the International Cable Protection Committee on practical guidance to avoid conflicts between contractors and cable operators in October 2018;
- a workshop on risk management with MIT in November 2018; and
- a workshop to review the Clarion-Clipperton Zone REMPs in late 2018.

He further indicated that the Finance Committee will consider a preliminary study on benefit-sharing and report to the Council in July, and the Secretariat will explore opportunities for a joint meeting of the LTC and Finance Committee. Germany announced its intention to host a workshop on benefit-sharing in 2018.

President Myklebust reflected that the Council "achieved a lot," leaving "a massive amount of work" for the LTC, that will certainly "know how to do the job." He gavelled the meeting to a close at 12:41 pm.

A BRIEF ANALYSIS OF ISA 24 (PART I)

“The world is watching and we have to deliver.” This opening remark by incoming Council President Olav Myklebust (Norway) made reference to the highest-profile issue on the agenda of the International Seabed Authority (ISA): the draft regulations for deep-seabed mining. The Council was tasked to consider the regulations together with Member States’ and stakeholders’ comments submitted in 2017 on the current draft, as summarized and thematically grouped in a note issued by the Secretariat. Even before arriving in Kingston, very few participants doubted that the “draft regs” would dominate discussions, given their role in unlocking the flow of monetary benefits into the ISA. Equally, quite a few Member States and stakeholders saw this meeting as an opportunity to ensure that the “regs” put in place the necessary environmental safeguards for a risky activity in the least known global ecosystem: the deep sea.

This brief analysis will assess progress in developing the “building blocks” of the draft regulations, and the priorities identified by the Council in moving forward in the context of the Authority’s transition towards assuming the role of “regulator” of mining activities in the deep seabed.

MANAGING COMPLEXITY IN THE EARTH’S LAST FRONTIER: THE DEEP SEA

The exploitation regulations have to “deliver big” in terms of detailing the rights, responsibilities, and obligations needed to manage the transition from exploration (assessing the mineral potential) to commercial exploitation of deep-seabed minerals. The ISA will have to operationalize the concept of the common heritage by regulating all aspects of commercial mining activities in the Area, providing a level-playing field for contractors and sponsoring states, while safeguarding the marine environment. To accelerate progress, the Council opted for an informal format for discussions on the draft regulations. Instead of negotiating a formal decision binding on the Legal and Technical Commission (LTC), the output was a President’s statement with guidance to the LTC. Several delegations felt that this approach allowed a frank and more interactive exchange of views, rather than a search for common ground at this early stage in the development of the regulations. In addition, this format facilitated greater understanding of the multi-layered complexity of exploitation.

One of the biggest challenges is certainly the operationalization of the concept of common heritage itself—a legal construct from another era, the brainchild of the New International Economic Order and the efforts to balance power after decolonization and during the Cold War. The UN Convention on the Law of the Sea (UNCLOS), however, provides scant details on how to put it in practice. To bring it to life, the complexities surrounding the economics of deep-seabed mining operations need to be addressed, as well as the scientific and legal complexities around the roles and responsibilities of contractors, sponsoring states, and ISA organs to regulate sustainable mining in fragile oceanic ecosystems.

EXPLORING THE ECONOMICS OF DEEP-SEABED MINING

Following up on past recommendations to engage more with the scientific community to bring in additional expertise, Richard Roth from the Massachusetts Institute of Technology (MIT) was invited to deliver to the Council what many delegates found an informative and engaging presentation. Roth described an

independent financial model prepared for the LTC’s consideration with a view to explaining the costs, risks, and advantages of different economic options. Addressing solely polymetallic nodules, Roth’s presentation on possible sources of revenues and various sources of uncertainty was carefully crafted to address an audience of non-economists. Nevertheless, “familiarity with basic economic concepts is certainly needed to effectively participate in these discussions,” commented a negotiator. “Some key notions were not addressed in detail in the presentation, such as upfront capital expenses (CAPEX) and ongoing operational ones (OPEX), revenue accumulation, and price volatility. But these parameters will be decisive for the commercial viability of deep-seabed mining activities.” As Roth reminded participants, “investors will only take on a project if discounted future revenues are large enough to provide a return on their investment that is competitive with other investment opportunities.”

A further basic reality in investment practices to keep in mind, according to another expert, is that the higher the level of risk, the higher the rates of return for any given project would have to be to attract the required capital. And this is even more crucial for commercial deep-seabed mining, which is an activity never practiced before at the envisaged scale with unprecedented technological risks. “So, if we follow the traditional economic theory presented in the Council, a higher rate of return would be required to compensate for these increased risks,” commented a participant.

One of the main policy choices brought to the Council’s attention by Roth was on the different options for revenue sharing between contractors and the Authority as the guardian of the common heritage. As explained, the simplest option would be a mass-based model, where a certain amount of money would be paid per dry ton of nodule removed from the seabed. The relevant calculations for the applicable rates, albeit not trivial, are relatively straightforward and include the mass of nodules removed from the seabed and the rate of return required by investors. While this option provides certainty, since the revenue is calculated on the basis of nodule quantity upon extraction, it does not take into account the metals’ price, leaving no space for additional benefits for the common heritage in cases where the gross revenues of the private enterprises grow.

Price is, however, factored into the other two options: a revenue-based model, which was also referred to as “*ad valorem*” or “royalty-based” during the negotiations (creating confusion among the initiated participants); or a profit-based model that also takes into account costs. While both of these options allow consideration of additional parameters, like price volatility or profitability, they also have disadvantages. They are much more complex, as they require more data, common rules for calculating profitability, depreciation schedules and rates, as well as reporting and monitoring exercises. They further necessitate more forecasting and, consequently, generate more uncertainty. Of the last two mechanisms, a workshop on the draft regs held in London in February underscored that the profit-based model may be unrealistic due to the fact that contractors will have to share data on profits, but such data and profit calculations are usually subject to varying business practices, which may raise transparency issues. Additionally, during the Council meeting, Roth also commented that the profit-based model raises more challenges in terms of monitoring, since contractors would have an incentive to under-report profitability with a view to paying

a lower share to the ISA. These considerations may explain why several states expressed a preference for considering hybrid options.

While forecasting models can provide strong insights, they do not deliver definitive answers. As Roth reminded the Council, “even the most sophisticated statistical analysis can only capture past behavior and does not address structural changes on the supply and demand sides.” On challenges ahead, Roth did not hesitate to lay down the inherent limitations of his scientific advice on this economic endeavor: when asked about “how much of the common heritage should be utilized and for how much money,” he responded, “this is not a question you want a natural resource economist to answer.” In addition, as Roth clarified following a question from the Deep Sea Conservation Coalition, the model prepared by MIT did not take into account environmental externalities and the valuation of ecosystem services. As a senior participant with a background in economics noted, “While these environmental concerns are valid and of utmost importance, trying to incorporate them in an economic forecast model is adding further uncertain parameters and is not going to make our results any more certain.” Yet, as several delegations, including Australia, Jamaica, Chile, and Germany, underscored repeatedly at this meeting, environmental concerns require much more consideration in the draft regulations.

HOW TO ENSURE EFFECTIVE PROTECTION OF THE MARINE ENVIRONMENT?

The discussion of the environmental dimension of the regulations, albeit compressed into less than a day, served to identify a few bases upon which to expand the regulations. Certain delegations, however, were caught by surprise on the final day of the session when they saw the outcome document issued by the President, which condensed environmental matters into a single and, for some, vague paragraph. As President Myklebust only allowed two-minute interventions dedicated to any serious concern or gap in his draft, a series of record-speed interventions followed.

Many focused on the need to develop regional environmental management plans (REMPs), which has become a common refrain at ISA meetings. Pressure to deliver REMPs with regard to exploration areas has also been applied on the ISA by the UN General Assembly. While the Secretariat is hard-pressed to find extra resources to carry out these exercises, the role of REMPs in the context of the exploitation regulations remains unclear. At the closing of the Council meeting, although certain delegations reiterated the point that REMPs should play a “fundamental role” in the regulations, the outcome merely invites the LTC to assess the written comments put forward by Member States and stakeholders on this issue, with a view to making recommendations to the Council in July.

Additional concerns included the need to improve provisions on best environmental practices, best available technology, environmental monitoring, the coherence between preservation reference zones and impact reference zones, chemical emissions, and seabed deformation. According to a veteran, while these concerns may be remedied with appropriate interventions in the draft regulations, “a more fundamental debate needs to take place that will eventually determine the desired level of environmental protection.” As it was, once again, highlighted in a side-event organized by NGOs and marine scientists, the interactions between deep seabed minerals and the host and neighboring marine ecosystems are still vastly unknown, both in terms of their

bioprospecting potential and their life-sustaining functions, like oxygen generation. Against this additional uncertainty, regulators will have to decide whether to “err on the side of precaution or on the side of best available science.” A sponsoring-state delegate argued emphatically: “We should impose, at first, very high environmental standards to deal with increased uncertainty. These standards may be progressively lowered as science advances.” But different views emerged on this underlying issue in the final minutes of the Council meeting, with some delegations emphasizing the importance to develop “commercially viable” regulations, and others prioritizing “technically, scientifically, and environmentally viable” ones. What this choice arguably boils down to, according to an insider, is the uncomfortable fact that stricter environmental regulations increase upfront costs and reduce the margin for monetary benefits. Another long-standing participant, however, reasoned that UNCLOS calls for the “effective protection” of the marine environment because this is undoubtedly to the benefit of humankind.

TO BE CONTINUED...

The number of uncertainties that the ISA Council and LTC have to face in developing the exploitation regulations is staggering. Limited knowledge on essential elements of deep sea marine ecosystems has direct consequences for economic valuations in case of environmental harm: bioprospecting potential may be forever lost, while some of the functions currently performed by these ecosystems may prove costly or impossible to replace. The economic side is not uncertainty-free either. In fact, it is quite the opposite, if one takes into account price volatilities, profit-computation problems, or other uncertainties of economic models. And this does not even take into consideration the complexity of determining how monetary benefits will be shared equitably, which is a separate decision-making process, at even an earlier stage under the Finance Committee.

While it is unlikely that the second part of this session of the ISA in July 2018 will entertain substantive discussions on benefit-sharing, it is expected that the Council will still have its plate full with revised financial models, possibly also for the other two minerals under the ISA’s jurisdiction (cobalt-rich ferromanganese crusts and polymetallic sulphides). In addition, the Council will receive from the LTC a revised set of regulations, as well as a note identifying matters that require further study and a request for further guidance from the Council on certain issues. The requests for Council guidance, according to an observer, will be the “right place” to initiate a substantive discussion on REMPs. For its part, the Assembly will consider a draft Strategic Plan for 2019-2023, the first version of which was presented at a side-event during the Council meeting and will soon be made available for stakeholder comments.

Already thinking ahead to the second part of this annual session, a delegate pondered: “The draft strategy aims to frame the role of the Authority in a changed world. But other than relating existing obligations to the Sustainable Development Goals, can it also indicate more clearly how the regime will benefit the interest of present and future generations?”

UPCOMING MEETINGS

Organizational Session of the Intergovernmental Conference on an International Legally Binding Instrument under UNCLOS on the Conservation and Sustainable Use of Marine Biological Diversity of Areas Beyond National Jurisdiction:

Following the conclusion of the Preparatory Committee on the elements of a draft text of an international legally binding instrument on the conservation and sustainable use of marine biodiversity of areas beyond national jurisdiction (BBNJ) under UNCLOS, this session will discuss the process for the preparation of the zero draft of the instrument. **dates:** 16-18 April 2018 **location:** UN Headquarters, New York **contact:** UN Division for Ocean Affairs and the Law of the Sea (UNDOALOS) **phone:** +1-212-963-3962 **fax:** +1-212-963-5847 **email:** doalos@un.org **www:** <https://www.un.org/bbnj/>

4th World Conference on Marine Biodiversity: This event will bring together scientists, practitioners, and policymakers to discuss and advance understanding of: climate change impacts on marine biodiversity; cumulative impacts of human activities on marine biodiversity; marine ecosystem safety; role of systematics in understanding ocean change; bioinformatics and data delivery; analytical approaches in marine biodiversity science; integrative frameworks for linking environmental and biological drivers of biodiversity; linking biodiversity to ecosystem function and services; blue biotechnology and marine genetic resources; marine policy and law; marine biodiversity and human health; marine biodiversity education and outreach; and strategies for conservation of marine biodiversity. **dates:** 13-16 May 2018 **location:** Montreal, Quebec, Canada **contact:** 4th WCMB Secretariat **phone:** +1-514-287-9898 ext. 334 **fax:** +1-514-287-1248 **email:** wcmb2018secretariat@jpd.com **www:** <http://www.wcmb2018.org/>

Cobalt Crust Project Workshop: This workshop, convened by the China Ocean Mineral Resources Research and Development Association (COMRA) and the ISA, is aimed at sharing environmental data, addressing relevant policies and laws, and considering the definition and function of a Regional Environmental Management Plan for cobalt-rich ferromanganese crust zones in the Pacific Ocean. **dates:** 27-29 May 2018 **location:** Qingdao, China **contact:** COMRA **email:** contactus@comra.org **www:** <http://www.comra.org/en/>

28th Meeting of States Parties to UNCLOS: The 28th Meeting of States Parties to the 1982 United Nations Convention on the Law of the Sea will discuss matters related to the International Tribunal for the Law of the Sea and the Commission on the Limits of the Continental Shelf, among others. **dates:** 11-14 June 2018 **location:** UN Headquarters New York **contact:** Secretary of the Meeting of States Parties **phone:** +1-212-963-3962 **fax:** +1-212-963-5847 **email:** doalos@un.org **www:** http://www.un.org/depts/los/meeting_states_parties/twentyeighthmeetingstatesparties.htm

UN Open-ended Informal Consultative Process on Oceans and the Law of the Sea: The 19th meeting of the UN Open-ended Informal Consultative Process on Oceans and the Law of the Sea (ICP-19) will focus on anthropogenic underwater noise. **dates:** 18-22 June 2018 **location:** UN Headquarters, New York **contact:** UNDOALOS **phone:** +1-212-963-3962 **fax:** +1-212-963-5847 **email:** doalos@un.org **www:** http://www.un.org/Depts/los/consultative_process/consultative_process.htm

IMCC5: The Society for Conservation Biology's fifth International Marine Conservation Congress will bring together conservation professionals and students to develop new and powerful tools to further marine conservation science and policy. **dates:** 24-29 June 2018 **location:** Sarawak, Malaysia **contact:** IMCC5 Organizers **email:** <http://conbio.org/mini-sites/imcc5/about/contact-us/> **www:** <http://conbio.org/mini-sites/imcc5/>

CBD SBSTTA-22: The twenty-second meeting of the Convention on Biological Diversity's Subsidiary Body on Scientific, Technical and Technological Advice (CBD SBSTTA) will address, *inter alia*: protected areas, biodiversity and climate change, ecologically or biologically significant marine areas, anthropogenic underwater noise, marine debris, biodiversity in cold-water areas, and marine spatial planning. **dates:** 2-7 July 2018 **location:** Montreal, Quebec, Canada **contact:** CBD Secretariat **phone:** +1-514-288-2220 **fax:** +1-514-288-6588 **email:** secretariat@cbd.int **www:** <https://www.cbd.int/meetings/SBSTTA-22>

CBD SBI-2: The CBD Subsidiary Body on Implementation (SBI) will address, *inter alia*: review of progress in the implementation of the Convention and the Strategic Biodiversity Plan, biodiversity mainstreaming, the global multilateral benefit-sharing mechanism under the Nagoya Protocol on Access to Genetic Resources and Benefit-Sharing, cooperation with other conventions and processes, and mechanisms for review of implementation. **dates:** 9-13 July 2018 **location:** Montreal, Quebec, Canada **contact:** CBD Secretariat **phone:** +1-514-288-2220 **fax:** +1-514-288-6588 **email:** secretariat@cbd.int **www:** <https://www.cbd.int/meetings/SBI-02>

24th Session of the ISA Assembly and the ISA Council (Part II): The ISA Council will consider the 2017 report of the Finance Committee, including the 2019-2020 budget proposals, and the 2018 report of the Legal and Technical Commission. The ISA Assembly will consider the 2019-2020 budget, a draft strategic plan for the ISA, and the Council's report. **dates:** 2-13 July 2018 for the Legal and Technical Commission; 9-12 July 2018 for the Finance Committee; 16-20 July 2018 for the Council; and 23-27 July 2018 for the Assembly. **location:** Kingston, Jamaica **contact:** ISA Secretariat **phone:** +1-876-922-9105 **fax:** +1-876-922-0195 **email:** <https://www.isa.org.jm/contact-us> **www:** <https://www.isa.org.jm/>

GLOSSARY

Area	Seabed and ocean floor and subsoil thereof, beyond the limits of national jurisdiction
BBNJ	Biodiversity in areas beyond national jurisdiction
DSCC	Deep Sea Conservation Coalition
EIA	Environmental impact assessment
GRULAC	Latin American and Caribbean Group
IMO	International Maritime Organization
IRZs	Impact reference zones
ISA	International Seabed Authority
IUCN	International Union for Conservation of Nature
LTC	Legal and Technical Commission
MIT	Massachusetts Institute of Technology
MSR	Marine scientific research
PRZs	Preservation reference zones
REMP	Regional environmental management plan
UNCLOS	UN Convention on the Law of the Sea