International Seabed Authority

Press Release

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ISA COUNCIL HEARS EXPERT ANALYSIS OF NEW SEABED MINERALS EXPLORATION AND MINING

The Council of the International Seabed Authority this morning heard expert presentations on the technical and economic aspects of mining for polymetallic sulphides and cobalt-rich ferromanganese crusts, as it began its work of the Authority's 12th Session, scheduled to conclude on 18 August. The substantive work of the 36 member Council at this session is to resume elaboration of the draft regulations on prospecting and exploration for those newly discovered minerals in the international seabed Area.

The Council completed a first reading of the draft regulations during the 11th Session in 2005 and considered that further explanation and elaboration were required with respect to certain aspects of the draft.

Two presentations were made at the Council meeting this morning by experts who participated in a workshop convened by the Authority on technical and economic considerations for mining those minerals. The workshop, held from 31 July to 4 August, preceded the 12th Session. A Secretariat official also introduced technical papers this morning that responded to the Council's concerns.

In the first presentation, consultant Dr. James R. Hein of the United States Geological Survey, provided a scientific basis for exploration and mine site model applied to block selection for cobalt-rich ferromanganese crusts (A/12/C/3 (Part 1)). He said the analysis was based on present state-of-knowledge of the morphology and size of seamounts and the distribution and characteristics of cobalt-rich crusts.

Seamount selection parameters

Dr. Hein said mining operations would take place around the summit region of guyots no deeper than 2,200 meters and on flat or shallowly inclined surfaces where cobalt-rich crusts are thickest and in greater quantity. Based on the surface areas of 34 north-equatorial Pacific guyots (flat-topped seamounts) and conical seamounts that were measured, it was determined that 1 to 2.5 guyots or 3-7 conical seamounts would be needed for a 20-year mining project. A single larger guyot could sustain a 20-year mining operation under favorable conditions. Such conditions included large guyots with little or no sediment cover, subdued topography, and a mean crust thickness of less than 6 centimeters. Dr. Hein said all those characteristics would reduce the number of seamounts needed for a 20-year mine site.

Dr. Hein suggested that while the actual surface area to be mined would be limited by sediment cover, the choice of seamounts would depend in part on its overall size. Other impediments to mining included prohibitive small-scale topography, biological corridors, unforeseen impediments, which could result in up to 70% further reduction in area available for mining

Suggested revisions to draft regulations

In the current draft regulations (ISBA/10/C/WP.1/Rev.1) contractors are required to nominate exploration lease-blocks 100 square kilometers in size, composed of contiguous 20 kilometers square sub-blocks. The new recommendation to the Council is that only 500 square kilometers were needed to sustain a mine site. Dr. Hein recommended a reduction in the basic block size from 100 square kilometers to 20 square kilometers, and that applicants should be allowed to group blocks into non-contiguous clusters in order to take advantage of the geomorphology of seamount groups.

In the second presentation, Dr Charles Morgan, an Environmental Planner of Planning Solutions, Hawaii, United States, gave a summary of the recommendations of a working group of the workshop on polymetallic sulphides. Dr. Morgan explained that the working group's mandate was to work within the existing draft regulations for sulphides and crusts, examining the question of economic feasibility, as well as issues related to the exploration area, restrictions on relinquishment procedures and royalties and equity participation by the Authority.

With regard to the fee to be paid by applicants for approval of a plan of work for exploration, the group proposed an alternative option to the existing one-time US$250,000 fee. Applicants could pay a lower initial fee, and annual rental fees calculated on a per block basis and increasing over time. An initial fee of US$25,000 was proposed followed by annual fees of $500 per block after the first year; US$1000 after the first relinquishment and $2000 after the second relinquishment. Additionally, each 5-year contract extension beyond the initial 15-year contract period would result in a doubling of fees.

On the issue of area relinquishment, the group recommended that there should be no requirement for contiguity after relinquishments. After fifteen years the contractor's area should be reduced through relinquishment to the equivalent of 25 blocks, to be subdivided as appropriate by the Authority.

In the ensuing discussions, several delegations, including China and Indonesia proposed that the recommendations outlined by Dr. Morgan be incorporated into a document by the Secretariat. Other members including Fiji and France took the floor to call for a cautious approach to the drafting of the regulations in light of the limited knowledge and the need to protect the environment.

Secretariat papers

Following the discussions on the two presentations, the Secretariat introduced two sets of technical papers dealing with issues the Council raised after completing its first reading of the draft regulations in 2005. Those issues included the size of the exploration areas, the proposed system for allocating exploration blocks and the way that would operate in practice. The papers further covered concerns about the risk of environmental damage from exploration for sulphides and crusts; the need for appropriate provisions to resolve overlapping claims, and the proper reflection in the draft text of anti-monopoly provisions contained in Annex III of the Convention on the Law of the Sea.

The first paper titled "Exploration and mine site model applied to block selection for cobalt-rich ferromanganese crusts and polymetallic sulphides" is contained in document ISBA/12/C/3 (Part I).

The second, titled "Analysis of the draft regulations on prospecting and exploration for polymetallic sulphides and cobalt-rich ferromanganese crust in the Area" is in three parts. Part I (ISBA/12/C/2 Part I), of the paper dealt with the provisions relating to prospecting, overlapping claims and the anti-monopoly provision. Part II (ISBA/12/C/2 Part II) addressed provisions relating to the protection of the marine environment, while Part III (ISBA/12/C/2 Part III) was an analysis of the provisions relating to the system of participation by the Authority. The Secretariat noted that the papers were not exhaustive, and did not put forward any views on controversial issues which were the subject of debate at last year's session. Rather, their purpose was to present a balanced discussion of the issues.

The representative of the United Kingdom, in his capacity as this session's Chairman of the Legal and Technical Commission, pointed out that while the input from experts would enhance the work of the Council, there still remained a shortage of knowledge needed to draw up regulations to govern the exploration of sulphides and crusts, and time would be needed for that body, as well as the Commission, to review these new options and recommendations. He announced that this afternoon's meeting of the Commission was an open one and encouraged Council members to attend.

Draft regulations

The draft text, prepared by the Authority's Legal and Technical Commission, comprises 43 regulations and four annexes. Annex 1 is on "Notification of intention to engage in prospecting", Annex 2 covers "Application for approval of a plan of work for exploration to obtain a contract", Annex 3 "Contract for exploration" and Annex 4 contains standard clauses for exploration contracts.

Nine provisions of the draft regulations are concerned with protection and preservation of the marine environment from activities in the international seabed Area. The draft regulations are based on the regime for prospecting and exploration for polymetallic nodules and the model clauses developed by the secretariat in 2001.

Polymetallic sulphides are concentrated at sites along an active submerged volcanic mountain range that extends through ocean basins. Polymetallic sulphides also occur at sites associated with volcanic island chains such as those along the western boundary of the Pacific Ocean. Cobalt-rich ferromanganese crusts are oxidized deposits of cobalt-rich iron and manganese layers formed by the precipitation of minerals from cold seawater onto hard seabed surfaces. In addition to the cobalt found in both types of deposits, sulphides also contain manganese, iron, other metals and rare earth elements, while crusts contains copper, lead, nickel, zinc, gold and silver.

The Council resumes its deliberations tomorrow afternoon.

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