



# Council

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## Report of the Chair of the Legal and Technical Commission on the work of the Commission during the twenty-first session of the International Seabed Authority

### I. Introduction

1. The Legal and Technical Commission held two sessions in 2015, from 16 to 27 February, and from 6 to 15 July, in total, holding 24 formal meetings.
2. On 16 February 2015, the Commission adopted its agenda for the twenty-first session (ISBA/21/LTC/1). On the same day, the Commission elected Christian Reichert as Chair and Elva Escobar as Vice-Chair.
3. The following members of the Commission participated in the two sessions: Adesina Adegbie, David Billett, Harald Brekke, Winifred Broadbelt, Georgy Cherkashov, Elva Escobar, Russell Howorth, Kiseong Hyeong, Elie Jarmache, Carlos Roberto Leite, Pedro Madureira, Juan Pablo Paniago, Andrzej Przybycin, Christian Reichert, Michelle Walker and Haiqi Zhang. The following members attended the session in July, but were unable to attend the session in February: Eusebio Lopera and Maruthadu Sudhakar. Farhan M.S. Al-Farhan and Hussein Mubarak were unable to attend either session. The following members resigned prior to the session in July 2015: Domenico da Empoli, Emmanuel Kalngui, Nobuyuki Okamoto and Cristián Rodrigo. In accordance with previous practice, Montserrat González Carrillo, Natsumi Kamiya and Marzia Rovere participated in the meetings of the Commission following their nomination, but prior to their formal election by the Council on 14 July 2015.

### II. Activities of contractors

#### A. Status of contracts for exploration

4. The secretariat provided the Commission with information on the status of contracts issued by the Authority pertaining to exploration for polymetallic nodules, polymetallic sulphides and cobalt-rich ferromanganese crusts at each of its two



sessions in 2015 ([ISBA/21/LTC/8](#) and [ISBA/21/LTC/8/Rev.1](#)). The Commission took note that 22 contracts for exploration had been issued by the Authority as at 30 June 2015 and noted that that number would reach 26 with the anticipated signature of four additional contracts. The Commission stressed that this rise had already resulted in an increase of its workload regarding the monitoring of the activities of contractors, including the evaluation of annual reports, together with the implementation of training programmes.

## **B. Implementation of training programmes under contracts for exploration and allocation of training opportunities**

5. At its July session, the Commission agreed to follow a practical approach for the selection of trainees. In particular, the Commission decided to select more alternates for each training opportunity in order to ensure that no training opportunity is lost if first-ranked candidates are not available. In that regard, the Commission encouraged contractors to inform the Authority sufficiently in advance when exploration cruises are being planned.

6. In addition, the Commission decided that it would be timely to review the recommendations for selecting trainees and requested the secretariat to prepare suggested guidelines for its consideration at its next meeting.

### **1. Implementation of training programmes by China Ocean Mineral Resources Research and Development Association**

7. At its session in February 2015, the Commission was informed that four training places had been made available by the China Ocean Mineral Resources Research and Development Association, with two trainees for a fellowship training programme and two for an engineering training programme. A total of 95 applications from 34 countries had been received.

8. On 16 February 2015, the Commission formed a training subgroup to carry out an initial review and appraisal of the applications. The subgroup met from 18 to 24 February and carried out graded selection. The selected candidates were ranked first and second, and first alternate and other alternates. Reinier Giralt Ortega (Cuba) and Taufan Wiguna (Indonesia) were selected for the fellowship training, while Natia Chomakhidze (Georgia) and Prithivi Dass Bissessur (Mauritius) were selected for the engineering training. Mr. Wiguna advised of his unavailability upon the notification of the selection result and Ms. Natalia Amezcua Torres (Mexico) replaced him as the first alternate. A full report on the selection process, together with the names of the recommended candidates, is contained in document [ISBA/21/LTC/10](#).

### **2. Implementation of training programmes by Tonga Offshore Mining Limited**

9. In April 2015, Tonga Offshore Mining Limited submitted a training proposal for two at-sea training places that would be available in June 2015. The selection process followed by the Commission involved the subgroup carrying out its work by email. Andriharizafy Rantsoa (Madagascar) and Victor Lopes (Brazil) were selected for that training programme. The Commission accepted the recommendation of the subgroup and emphasized that every effort should be made by contractors to submit their training proposals not less than six months prior to the

implementation of the training programme. A full report on the selection of the candidates is contained in document [ISBA/21/LTC/13](#).

### **3. Implementation of training programmes by UK Seabed Resources Ltd. and by the Federal Institute for Geosciences and Natural Resources of Germany**

10. In July 2015, the Commission met to select the candidates for the training programmes to be provided by UK Seabed Resources Ltd. (UKSRL) and by the Federal Institute for Geoscience and Natural Resources of Germany (BGR). Once again the subgroup process was utilized.

11. UKSRL had submitted its training proposal in April 2015. It had contracted with the Plymouth University to provide one Ph.D. programme in the analysis of polymetallic nodules and one Ph.D. programme in deep-sea marine biology, each of them starting in October 2015 for a four-year period. A total of 39 applications from 15 countries had been received for the Ph.D. programme in nodule analysis and 42 applications from 16 countries had been submitted for the second Ph.D. programme. In collaboration with UKSRL and the University of Plymouth, the Commission selected Wycliff Tupiti (Solomon Islands) as the first-ranked candidate and Felix Nshimiyimana (Rwanda) as the alternate for the Ph.D programme in analysis of polymetallic nodules. The Commission selected Kirsty McQuaid (South Africa) as the first-ranked candidate and Beatriz Eugenia Mejia Mercado (Mexico) as the alternate for the other Ph.D. programme.

12. The BGR training programme included the availability of two at-sea training places in late 2015 and four at-sea training places in early 2016. A total of 73 applications from 20 countries had been received. A list of 6 first-ranked candidates and 12 alternates was agreed by the Commission.

13. Full details on the selection of candidates for the UKSRL and BGR training programmes are contained in document [ISBA/21/LTC/14](#).

### **4. Anticipated training opportunities within the next five years**

14. In response to a request from the Commission at its February session, the secretariat provided an update of training opportunities that would be made available within the next five years. The Commission took note of the fact that approximately 90 training opportunities would arise as a result of contracts for exploration that had been issued since 2011. That number could reach 120 as a result of four contracts for exploration that were anticipated to be concluded in 2015. That did not include the training opportunities that could arise from the extension of contracts for exploration in 2016 and 2017.

## **C. Review of the recommended template for annual reports of contractors**

15. At its last session in 2014, the Commission agreed that it was necessary to replace the current template on the format and structure of annual reports of contractors that had been designed in 2002. In addition, the current template did not include the additional requirements for the format and content of annual reports, including on standardization of data which the Commission, particularly in recent years, had recommended. Other elements were also considered for the review,

including comments made by the Commission in its previous and current evaluation of the annual reports of contractors, the template for the submission of data, as agreed with the contractors at a meeting in January 2012, together with the outcomes of workshops recently organized by the Authority.

16. At the session in February 2015, the Commission commenced its review of the template for annual reports of contractors on the basis of a draft prepared by the secretariat. The Commission divided into two working groups to review templates for reporting environmental and resource data and information. However, the Commission had insufficient time to conclude its review and agreed to continue to work intersessionally through the secure website of the Commission. On the basis of comments and reviews received from some members of the Commission, the secretariat prepared draft recommendations for the guidance of contractors on the content, structure and format of annual reports of contractors for consideration by the full Commission in July. After review, the Commission adopted the draft recommendations as contained in document [ISBA/21/LTC/15](#). The recommendations include general requirements for the annual report and specific guidance for reporting on the exploration under contract for each category of marine mineral resources (polymetallic nodules, polymetallic sulphides and cobalt-rich ferromanganese crusts). The specific guidance is contained in annexes I to III of the recommendations. Annex IV comprises a list of templates for reporting environmental and geological data. Annex V of the recommendations includes the recommended standard for reporting of mineral exploration results assessments, mineral resources and mineral reserves. Those are derived from the international reporting template of the Committee for Mineral Reserves International Reporting Standards, which was discussed at the Goa workshop (see paras. 38-39).

17. The updated recommendations supersede the guidance for contents, format and structure for annual reports suggested by the Commission in the annex to document [ISBA/8/LTC/2](#) and should be applied by all contractors with effect from 1 January 2016.

#### **D. Review of the recommendations for the guidance of contractors on the reporting of actual and direct exploration expenditures**

18. At its session in July 2014, the Commission noted the need to update the recommendations for the guidance of contractors for the reporting of actual and direct exploration expenditures that had been issued in 2009, prior to the approval of the regulations on prospecting and exploration for polymetallic sulphides and cobalt-rich ferromanganese crusts and before the entry into force of contracts for exploration for those resources. The Commission decided to review the recommendations at its session in February 2015 and requested that the secretariat prepare a draft for its consideration for that purpose. In that regard, the Commission recalled that the provisions applicable to financial reporting were identical to the relevant provisions in each of the three sets of regulations of the Authority. The Commission reviewed the proposed amendments and agreed to them, with minor editorial changes, together with a revision of the capital reporting for the equipment used. The recommendations for the guidance of contractors for the reporting of actual and direct exploration expenditure that the Commission issued are contained in document [ISBA/21/LTC/11](#).

## **E. Consideration of the annual reports of contractors**

19. The Commission considered 18 annual reports submitted by contractors pursuant to section 10 of annex 4 to the Regulations. The list of contractors that submitted annual reports is contained in annex I to the present report. Following past practice, the secretariat made the annual reports of the contractors available to members of the Commission through the secure website. The secretariat also prepared a preliminary technical evaluation of the reports. In considering the reports, the Commission divided itself into three working groups on (a) resource and technical matters, (b) environmental matters, and (c) legal and financial matters and training. Annex II to the present report contains the general comments and conclusions of the Commission on the annual reports of the contractors for the information of the Council.

## **III. Application for approval of a plan of work for exploration for polymetallic nodules by the China Minmetals Corporation**

20. On 8 August 2014, an application for approval of a plan of work for exploration in eight reserved areas in the Clarion-Clipperton one was received from China Minmetals Corporation, a State enterprise under the sponsorship of the Government of China. This was placed on the agenda of the Commission for its session in February 2015. The Commission considered the application in closed meetings held on 18, 19, 20 and 26 February. Following a presentation of the application, the Commission submitted a list of questions to the applicant on the basis of its initial consideration. The Commission was able to consider responses to the questions at the February session, following which the Commission adopted its report and recommendations to the Council as contained in document [ISBA/21/C/2](#).

## **IV. Implementation of the environmental management plan for the Clarion-Clipperton Zone and development of other environmental management plans in the Area**

21. At its twentieth session, the Council encouraged the secretariat and the Commission to continue their work on the implementation of the environmental management plan for the Clarion-Clipperton Zone up to and beyond 2015, and encouraged the Commission to consider the development of similar plans in other regions where the Authority had issued exploration contracts, in line with the calls from the General Assembly.<sup>1</sup>

22. The secretariat prepared an update on the status of the environmental management plan for the Clarion-Clipperton Zone, together with information on proposals for the development of similar plans in other regions where the Authority had issued exploration contracts ([ISBA/21/LTC/9/Rev.1](#)).

23. In the light of the review of the implementation of the environmental management plan for the Clarion-Clipperton Zone on which the Commission is to

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<sup>1</sup> [ISBA/20/C/31](#), para. 9, General Assembly resolution 68/70, para. 51, and General Assembly resolution 69/245, para. 51.

report to the Council in 2016, the Commission requested that the secretariat prepare an outline of the existing plan including the Areas of Particular Environmental Interest. A great deal of information and sampling had been gathered in recent months in the region and the Commission would take this into consideration in 2016.

24. With respect to the development of other environmental management plans, the Commission was informed of a scoping workshop (Horta, Azores, 1-3 June 2015) held to initiate a scientific and technical process towards the development of a strategic environmental management plan for deep seabed mineral exploration and exploitation in the Atlantic basin in areas beyond national jurisdiction.

25. The Commission took note of the information provided by the secretariat and welcomed inputs from external initiatives by the scientific community. The Commission supported the rationale for an environmental management plan for the Mid-Atlantic Ridge. It noted that a robust scientific case would be developed by the workshop participants over the coming years and it was expected that a report would be submitted for consideration and development by the Commission in 2017.

## **V. Draft regulations for the exploitation of mineral resources in the Area**

26. The Commission continued its discussions relating to the development of a regulatory framework for mineral exploitation in the Area, in particular a request made to the Commission by the Council at its twentieth session to deliver a draft framework to all members of the Authority and all stakeholders following the meeting of the Commission in February 2015.

27. To that end, the Commission considered a report and presentation prepared by the secretariat. The report set out the background to the development of the framework under the Convention on the Law of the Sea and the Agreement relating to the implementation of Part XI thereof, including the specific policy objectives and the criteria for the formulation of rules, regulations and procedures applicable to exploitation. The Commission discussed a number of high-level issues that would have an impact on the strategic approach taken with regard to the development of the exploitation regulations, together with definitions and a number of practical issues affecting the operationalization of the exploitation regime. The Commission felt, in particular, that the areas of risk assessment and management and the implementation of internationally recognized standards were fundamental to the orderly development of the industry and its regulation. That would require a more detailed understanding of proposed operations.

28. The Commission also took note of a discussion paper prepared by the secretariat and external consultants concerning the development of a payment mechanism for exploitation activities in the Area.

29. At the end of its February meeting, the Commission decided to circulate a draft framework to all stakeholders, together with a summary of the high-level issues under discussion. In addition, the Commission agreed to circulate a draft action plan flowing from the draft regulatory framework. The action plan also highlighted the magnitude of the task ahead. The Commission agreed to provide to the Council in July 2015 an updated report, including a revised draft framework and

revised action plan following the receipt of stakeholder responses to the framework report, together with a summary of priority action areas.

30. As part of its July meetings, the Commission discussed the stakeholder responses to the suggested draft framework, high-level issues and action plan issued to stakeholders in March 2015.<sup>2</sup> The discussion also benefited from the views exchanged at a workshop held in Singapore in June 2015 related to the draft framework and a payment mechanism (ISA Briefing Paper 04/2015). The workshop was organized by the Authority in collaboration with the Centre for International Law of the National University of Singapore. The Commission expressed its appreciation to those stakeholders who had responded to the draft framework and acknowledged the various offers of assistance in developing specific aspects of the framework. The Commission requested that the secretariat continue to maintain liaison with those stakeholders accordingly.

31. The Commission considered that the draft framework had been well received by stakeholders and served as a good basis to provide direction to the drafting of the exploitation regulations, together with additional detail contained in stakeholder responses to the framework and the 2014 stakeholder survey. The Commission has issued a revised draft framework and action plan, taking account of any material comments by stakeholders. A revised document was available on the Authority's website.<sup>3</sup>

32. The Commission also acknowledged the submissions made to the discussion paper issued by the secretariat relating to the financial payment mechanism. The Commission discussed the difficulties inherent in designing a longer-term payment mechanism and noted the proposal made at the Singapore workshop to consider a transitional payment mechanism. The Commission observed the need for a better understanding of exploitation business models and a need for financial and economic models to be prepared. The Commission requested that this be taken forward by the secretariat.

33. From its review, the Commission had identified seven priority deliverables for the next 12 to 18 months. These were reflected in annex III to the present report and included a zero draft of the exploitation regulations and standard contract terms. The Commission noted that a complete exploitation code, including guidelines and recommendations, would evolve over time as more data and information became available and that the delivery of a complete exploitation code will have material implications for the budget for the next biennium (2017 and 2018) and beyond. In conjunction with the secretariat, the Commission would aim to develop a fully costed plan and timeline by July 2016.

34. In terms of a continued commitment to transparency and engagement, the Commission has requested the secretariat to draft a stakeholder consultation and participation strategy for the Authority.

35. The Commission would also recommend to the Council that a call be made for broader stakeholder participation, including that of member States, to support and engage with the Authority, such that specific views and opinions could be addressed during this stage of development.

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<sup>2</sup> *Report to Members of the Authority and all stakeholders*, 23 March 2015.

<sup>3</sup> Available at <http://bit.ly/1K4Bmrc>.

## **VI. Data management and standardization**

### **A. Data management strategy of the Authority**

36. The Commission was provided with an oral presentation regarding a data management plan to be implemented over the next 12 to 18 months, which included a brief description of programmes of cooperation with scientific projects and the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization. The Commission emphasized the importance of developing a strategy in partnership with the contractors and of defining protocols for the validation of resource assessment and environmental data. The Commission also recognized that the Authority's database should host the available genetic data. The Commission stressed that the strategy should describe the use of the data by the Authority and, in particular, expressed the view that confidential and non-confidential data should be separated in the database. The Commission also cautioned that the resources of the secretariat should be allocated giving priority to the implementation of the database management strategy, which has also been identified as a high priority action in the context of the development of the exploitation regulations. The Commission decided to keep this critical question on its agenda for the next session and requested the secretariat to provide a draft data management strategy and the financial implications of its implementation for its consideration at its February 2016 meeting.

### **B. Consideration of the outcomes of the international workshop on polymetallic nodules resources classification, held in Goa, India, from 13 to 17 October 2014**

37. The Commission was provided with a summary of the international workshop on polymetallic nodules resource classification that was held from 13 to 17 October 2014 in Goa, India. The workshop was organized by the Authority in collaboration with the Ministry of Earth Sciences of the Government of India. Its main objectives were twofold: to ascertain the status of work undertaken by contractors, with a view to standardizing resource data reporting that contractors are required to submit; and to develop guidance for a standardized classification of the mineral resources in the Area. Eight contractors participated in the workshop.

38. The main outcome of the workshop was to recommend the adoption of a standardized template for resource classification as soon as possible for the guidance of contractors. The recommendations of the Goa workshop in this regard have been incorporated into the recommendations for the guidance of contractors relating to the content, format and structure of annual reports of contractors (ISBA/21/LTC/15) which contain an annex relating to reporting standard for mineral exploration assessment results.



### **C. Outcomes of the international workshop on taxonomic methods and standardization of macrofauna in the Clarion-Clipperton Zone, held in Uljin, Republic of Korea, from 23 to 30 November 2014**

39. At its February meeting, the Commission was presented with the outcomes of the workshop on taxonomic methods and standardization of macrofauna in the Clarion-Clipperton Zone that had been hosted by the East Sea Research Institute in Uljin, Republic of Korea, from 23 to 30 November 2014. This had been the second in a series of workshops on deep-sea fauna. A total of 42 people from 23 countries had attended, including scientific experts, members of the Commission and scientists employed by contractors.

40. The Commission noted that the workshop had achieved four significant outputs: (a) a standardized nomenclature had been produced by the taxonomic experts, with associated descriptions and keys, that was made available to all contractors; (b) new recommendations had been advised on standardized sampling and storing methods; (c) it had advised that contractors should undertake biologically focused sampling cruises and that mixed-discipline cruises should allocate sufficient ship berth space for biological teams; (d) it had concluded that specimens must be identified at the species level and follow the World Register for Marine Species ([www.marinespecies.org](http://www.marinespecies.org)). The Commission took note of the recommendations made at the workshop (ISA Technical Study No. 13, 2015, pp. 37-38) and requested that the secretariat provide a brief commentary on how the recommendations might be taken up in the future.

## **VII. Matters referred to the Commission by the Council**

### **A. Procedures and criteria for applications for extensions of contracts for exploration in the Area**

41. At its twentieth session, the Commission drew the attention of the Council to the fact that seven contracts for exploration would expire in 2016 and 2017.<sup>4</sup> Given that applications for extension of contracts might be expected by September 2015, appropriate procedures and criteria for processing such applications in a uniform and non-discriminatory manner were urgently needed. Acknowledging the concerns expressed and the urgency of the situation, the Council, by its decision [ISBA/20/C/31](#) of 23 July 2014, requested the Commission, as a matter of first priority, to formulate draft procedures and criteria for applications for extensions of contracts for exploration.

42. For the session in February 2015, the secretariat provided the Commission with draft procedures and criteria for the extension of an approved plan of work pursuant to section 1, paragraph 9, of the annex to the 1994 Agreement and pursuant to section 3.2 of the standard clauses set out in annex IV to the Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area

<sup>4</sup> Those contracts are between the Authority and the Interoceanmetal Joint Organization, Yuzhmorgeologiya, the Government of the Republic of Korea, the China Ocean Mineral Resources Research and Development Association, Deep Ocean Resources Development Co. Ltd., the Institut français de recherche pour l'exploitation de la mer and the Government of India.

(ISBA/21/LTC/WP.1), together with an explanatory note (ISBA/21/LTC/3). The Commission reviewed them in closed meetings on 23, 24, 25 and 27 February 2015. On the last day of the session, after having exhausted all efforts to reach a decision by consensus, the Commission proceeded to a vote pursuant to rules 44 and 47 of its rules of procedures. The voting results were nine in favour of the adoption, three against it and two abstentions. The recommendations of the Commission to the Council on procedures and criteria for the extension of an approved plan of work for exploration are contained in document ISBA/21/C/WP.1. The three members of the Commission who voted against the adoption requested that a summary of their divergence of opinion accompany the recommendations, pursuant to rule 46 of the rules of procedure of the Commission. On 13 March 2015, the secretariat received that summary (ISBA/21/C/3, annex).

43. The procedures and criteria proposed by the Commission to the Council set out the form and content of an application for extension and describe their processing by the secretariat and the consideration of an application by the Commission and the Council. They also include a transitional provision that applies in case an application for extension has been duly submitted, but the expiry of the contract would occur after the session of the Commission at which the application was reviewed and prior to the next session of the Council. The procedures and criteria adopted by the Commission also include two annexes. The first annex provides details of the content of an application for extension, while the second annex consists of a template for a written agreement between the Authority and the contractor regarding the extension of an exploration contract.

44. While adopting the recommendations, the Commission noted that the administrative fee for processing an application for extension was of a financial nature and therefore fell within the remit of the Finance Committee, given that, in accordance with the 1994 Agreement, any decision by the Council having financial or budgetary implications or pertaining to the financial management and internal administration of the Authority must be based on the recommendations of the Finance Committee. Consequently, the Commission did not take any position with respect to the relevant paragraphs on the administrative fee and requested that the Secretary-General place this matter on the agenda of the Finance Committee for consideration at its next session, in July 2015.

**B. Issues relating to the sponsorship by States of contracts of exploration in the Area, with particular attention to the test of effective control, as well as issues relating to the monopolization of activities in the Area, taking into consideration, in particular, the concept of abuse of a dominant position**

45. The Commission considered an interim report on this issue prepared by the secretariat. It was agreed to keep this matter on the agenda of the Commission for 2016. The Commission also requested the secretariat to continue its work on the matter and to prepare a more detailed analysis for the Commission at its next meeting, illustrating and identifying more specifically the new ways of doing business that had been highlighted by the Commission in its previous discussions.

**C. Preparation of draft procedures on the handling of confidential data and information, as provided for in rule 12 of the rules of procedure of the Commission**

46. The Commission noted that it had been requested to report to the Council on this matter in 2016 and that the secretariat would prepare draft procedures for consideration by the Commission at its next meeting in February 2016.

**VIII. Other matters**

47. The Commission had a general discussion and exchange of views on its size and composition. It was generally agreed that the current size of the Commission allowed for a broad participation by members and that the general level of attendance was satisfactory. It was noted that the future programme of work for the Commission would probably require more specific expertise relating to the economics of mining projects and marine technology to add to the expertise currently in the Commission.

## Annex I

### List of contractors which have submitted an annual report on activities carried out in 2014, pursuant to section 10 of annex IV to the Regulations

<i>Name of contractor</i>	<i>ISBA reference No.</i>	<i>Date of submission of annual report</i>
<b>A. Polymetallic nodules</b>		
Global Sea Mineral Resources	PMN/11/2013/BEL	26 March 2015
Nauru Ocean Resources Inc.	PMN/09/2011/NRU	30 March 2015
Federal Institute for Geosciences and Natural Resources of Germany	PMN/08/2006/DEU	31 March 2015
Interoceanmetal Joint Organization	PMN/02/2001/IOM	31 March 2015
Institut français de recherche pour l'exploitation de la mer (Ifremer)	PMN/06/2001/FRA	31 March 2015
Yuzhmorgeologiya	PMN/01/2001/RUS	31 March 2015
Deep Ocean Resources Development Co. Ltd.	PMN/05/2001/JPN	7 April 2015
China Ocean Mineral Resources Research and Development Association (COMRA)	PMN/04/2001/CHN	31 March 2015
Government of the Republic of Korea	PMN/03/2001/KOR	7 April 2015
UK Seabed Resources Ltd.	PMN/12/2013/GBR	31 March 2015
Government of India	PMN/07/2002/IND	30 March 2015
Tonga Offshore Mining Ltd.	PMN/10/2012/TON	10 April 2015
<b>B. Polymetallic sulphides</b>		
Government of the Russian Federation	PMS/02/2012/RUS	7 April 2015
COMRA	PMS/01/2011/CHN	31 March 2015
Ifremer	PMS/04/2014/FRA	31 March 2015
Government of the Republic of Korea	PMS/03/2014/KOR	30 April 2015
<b>C. Cobalt-rich ferromanganese crusts</b>		
COMRA	CFC/02/2014/CHN	31 March 2015
Japan Oil, Gas and Metals National Corporation	CFC/01/2014/JPN	30 March 2015

## Annex II

### General comments of the Commission on the annual reports of the contractors

#### General comments

1. The majority of reports largely follow the general format prescribed by the Commission, and are confined for the most part to work carried out during the reporting year under consideration, in accordance with the suggestions made by the Commission following evaluations in previous years. While the average quality of reports is improving, there remains a need for contractors to further improve reporting on resource assessment and environmental baseline data. Furthermore, a few reports were limited to reviewing work that had been carried out in earlier years.

2. Six contractors are entering the last year of the final five-year phase of their respective contracts. By the end of that time it is to be expected that they will have identified a first-generation mine site, obtained good baseline environmental data, developed a mining system prototype and arrangements for metallurgical processing. It can be anticipated that these contractors will request extensions of their plans of work. Five of those contractors have reported different stages on mining tests and siting in their respective areas. Several contractors are now acquiring high resolution bathymetry collected by deep towed systems, seafloor morphology knowledge being of utmost importance to the design and development of the collector systems.

3. The Commission noted concerns over the quality of a number of the annual reports and, in particular, the fact that some contractors had failed to observe the recommendations for guidance issued by the Commission for the assessment of environmental impacts and to provide adequate data in the appropriate format (ISBA/19/LTC/8). Specific details of such failures were provided to the Secretary-General. The Commission requested the Secretary-General to take up these issues with the contractors and report back to the Commission at its next meeting. The Commission also wished to remind contractors of their contractual obligations under section 13.2 (b) and (e) of annex IV to the contract to comply with the rules, regulations and procedures of the Authority and to observe the recommendations issued by the Commission, and of the consequences of non-compliance.

4. The Commission noted that few examples currently exist of any collaborative work between and among contractors, even though several contractors mentioned the usefulness of the standardization workshops organized by the Authority in Germany (2013) and the Republic of Korea (2014).

#### Exploration work

5. Annual reports by most contractors are directly related to fieldwork carried out in the reporting year. A total of 18 cruises were conducted by contractors in 2014, amounting to 880 days at sea. However there remains a lack of raw tabular data in digital format.

6. A positive trend observed during the reporting period is that one of the contractors has started analysing data on the economic feasibility of nodule mining.

Some are also providing information on mineral resource classification following mining industry practice.

### **Mining tests and proposed mining technology**

7. Progress still remains to be made on technology-related issues; however several contractors for polymetallic nodules are working on the development of mining systems and metallurgical processing. For polymetallic sulphides and cobalt-rich ferromanganese crusts, the latter activities will be developed later.

### **Environmental monitoring and assessment**

8. The environmental work reported by contractors in 2014 is improving, but there are still very great differences between contractors in the quality and amount of data being reported. Some contractors have provided detailed, high-quality data focused on operational needs, while others have produced only marginal data, which is unlikely to be used in baseline studies. There are very few biological data being reported at species level, as required by the Legal and Technical Commission's recommendations for the guidance of contractors on the possible environmental impacts arising from the exploration of marine minerals in the Area ([ISBA/19/LTC/8](#)). In many cases, there has been no replicated sampling. Poor planning of environmental surveys is evident in some cases. Some contractors lack appreciation of the importance of sample design (size, sample number, and stratified random sampling) to address environmental heterogeneity, as detailed by the Authority's taxonomy and sampling standardization workshops.

9. There is still a lack of raw tabular data being provided by many contractors. Only 5 contractors have provided digital tabulated data for polymetallic nodules. One contractor has provided data for polymetallic sulphides and one for cobalt-rich ferromanganese crusts. This raw tabular data is essential for evaluating the potential impacts of mining on the marine environment and for the development of the Authority's regional environmental management plans.

10. Contractors are reminded that prior environmental impact assessments must be agreed with the Authority before dredging or other potentially harmful sampling activities are conducted in sulphide and crusts exploration areas. Contractors are required to verify and report that no serious harm has been caused to ecosystems by their activities in these areas.

### **Financial statements**

11. Most of the contractors provided itemized financial statements, as recommended in the document [ISBA/15/LTC/7](#). Such a breakdown is needed to conduct an evaluation of the reported expenditure and to confirm the compliance with the contract. Most contractors exceeded the minimum expenditures stated in their work programmes.

### **Training programmes**

12. Training programmes were conducted by BGR and COMRA in 2014. Daniel Armando Pérez-Calder (Mexico) and Khaled Sinoussy Mohamed (Egypt) participated in the BGR programme. COMRA provided four at-sea training opportunities, although only three candidates were able to take part in the training.

It is regretted that one opportunity was lost, owing to a last-minute withdrawal by a candidate. Training reports were received from all the above-mentioned trainees.

13. COMRA also supported the implementation of the Southwest Indian Ridge at-sea training programme, which was partially funded by the Authority's Endowment Fund. In addition to its training obligations under its contract, Nauru Ocean Resources Inc. provided training to candidates from developing States in environmental science and engineering at the University of the South Pacific in Fiji.

## Annex III

### Priority deliverables for the development of the exploitation code over the next 12-18 months, as reported to the Finance Committee by the Chairman of the Legal and Technical Commission

<i>Task area</i>	<i>Commentary</i>
1. A zero draft of exploitation regulations and standard contract terms based on the working structure agreed by the Commission ( <a href="http://bit.ly/1K4Bmrc">http://bit.ly/1K4Bmrc</a> )	This is vital to provide a higher degree of legal certainty to facilitate investment decisions being made by investors and define key exploitation rights, contract duration, size of exploitation area etc. and related obligations, including environmental obligations. It is intended that the drafting be undertaken by an expert working group (external consultants), including Secretariat personnel. An initial draft deliverable to the Commission in February 2016 will be circulated to stakeholders in March 2016 and presented to the Council in July 2016 together with next steps.
2. Financial modelling for proposed Financial terms and payment mechanism	To develop a payment mechanism for exploitation activities, detailed financial and economic models based on proposed business plans are needed. External consultants will be required here. This is a key priority for contractors and the Authority.
3. Data management strategy and plan	The secretariat is to produce a fully costed data management strategy and technical implementation plan based on the advice of the Commission by February 2016. The project is likely to require significant funding in the budget for the next biennium.
4. Environmental assessment and management	The Authority must develop an environmental impact assessment process and develop its current draft environmental impact statement for adoption by contractors. In addition, the Authority must develop a strategy for strategic (regional) environmental management plans, building on its experience with the establishment of an environmental management plan for the Clarion-Clipperton Zone. These areas require terms of reference but are likely to require input from external experts and/or working group(s)/workshop(s) in the next 12 to 18 months, as well as significant financial resources in the next budgetary cycle.
5. Adaptive management approach	A key tool for environmental protection. The Government of New Zealand has offered to work with the Authority to develop this.
6. "Serious harm"	A key term in the exploration and future exploitation codes. This needs to be operationalized through background studies, expert input and subsequent review workshop.
7. Responsibility and liability	Legal working group (external experts) will need to be formed to explore and develop further rules and principles. The process will be kick-started in the next 12-18 months by a study to be commissioned from external consultants but is seen as a long-term project.