


# ISA Contract for Exploration Public Information Template

 <p><b>NORI</b> NAURU OCEAN RESOURCES INC.</p>	Type of resource: Polymetallic Nodules
	Name of Contractor: Nauru Ocean Resources Inc.
	Contract Start: July 22, 2011
Sponsoring State: Republic of Nauru	Contract End: July 22, 2026
	Location: 4 Areas in the Clarion-Clipperton Zone of the Pacific Ocean

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## Introduction

The information contained in this ISA Contract for Exploration – Public Information Template is made available to the public in response to the request by the Council of the ISA to make contracts publicly available, subject to restrictions on confidential information, industrial secrets and proprietary data.

The content of the present template is in accordance with the Regulations on Prospecting and Exploration for *[Polymetallic Nodules in the Area]* [ISBA/19/C/17] (the “Regulations”).

## 1. Contract Information

Annex III of the Regulations.

<b>Type of resource</b>	Polymetallic Nodules
<b>Name of Contractor</b>	Nauru Ocean Resources Inc.
<b>Contract Start</b>	July 22, 2011
<b>Contract End</b>	July 22, 2026
<b>Location</b>	4 Areas in the Clarion-Clipperton Zone of the Pacific Ocean
<b>Contract Area (km<sup>2</sup>)</b>	74,830

## 2. Coordinates and Illustrative Chart of the Exploration Area

Schedule 1 of Annex III of the Regulations.

Exploration area located between

### Area A (8,924 Km<sup>2</sup>)

	<b>Latitude</b>	<b>Longitude</b>
	13.0000 N	-134.583 W (the point of commencement)
Then to	13.0000 N	-134.250 W
Then to	12.5000 N	-134.250 W
Then to	12.5000 N	-134.067 W
Then to	12.1933 N	-134.067 W
Then to	12.1933 N	-133.833 W
Then to	11.5000 N	-133.833 W
Then to	11.5000 N	-134.377 W
Then to	12.0000 N	-134.377 W
Then to	12.0000 N	-134.583 W
Then to	13.0000 N	-134.583 W (being the point of commencement)

### Area B (3,519 Km<sup>2</sup>)

	<b>Latitude</b>	<b>Longitude</b>
	14.00000 N	-134.00000 W (the point of commencement)
Then to	14.00000 N	-133.25000 W
Then to	13.86670 N	-133.25000 W
Then to	13.86670 N	-133.20000 W
Then to	13.58010 N	-133.20000 W

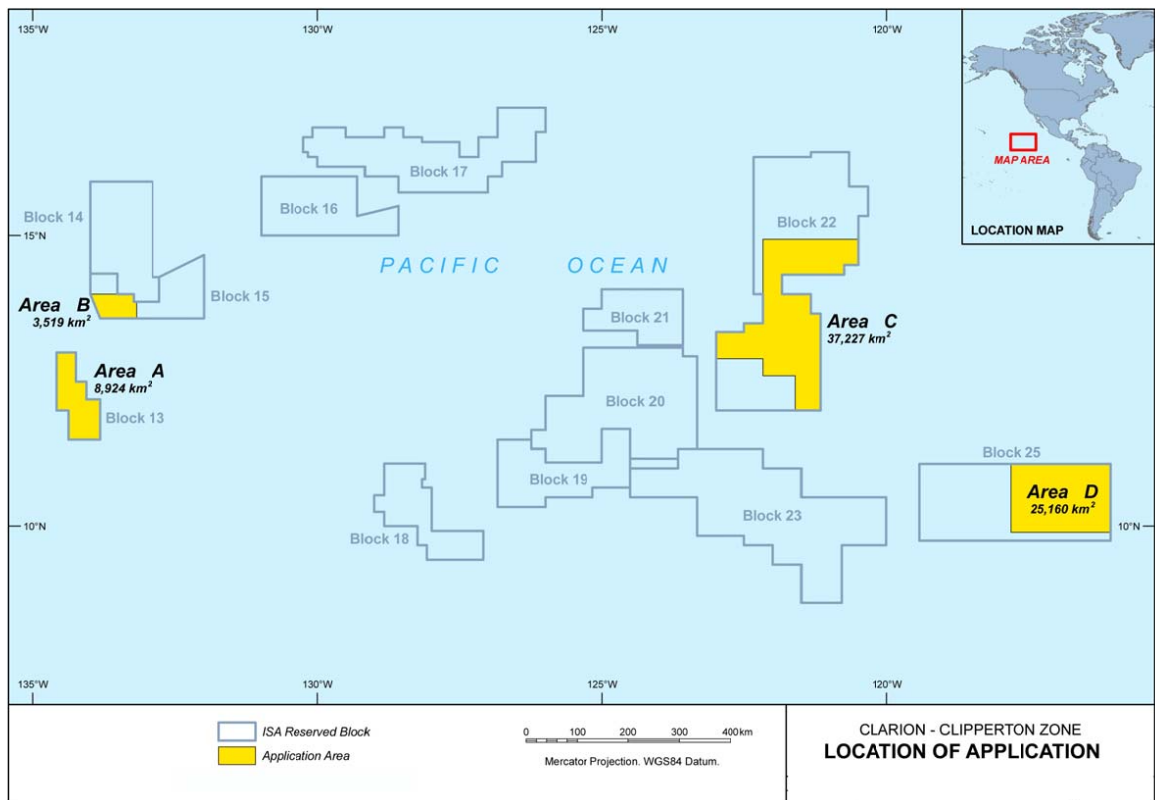
Then to	13.58010 N	-133.83300 W
Then to	14.00000 N	-134.00000 W (being the point of commencement)

**Area C (37,227 Km<sup>2</sup>)**

	<b>Latitude</b>	<b>Longitude</b>
	14.9350 N	-122.1667 W (the point of commencement)
Then to	14.9350 N	-120.5000 W
Then to	14.5000 N	-120.5000 W
Then to	14.5000 N	-120.7500 W
Then to	14.3333 N	-120.7500 W
Then to	14.3333 N	-121.8330 W
Then to	14.0000 N	-121.8330 W
Then to	14.0000 N	-121.3330 W
Then to	13.6667 N	-121.3330 W
Then to	13.6667 N	-121.1670 W
Then to	12.0000 N	-121.1670 W
Then to	12.0000 N	-121.6000 W
Then to	12.6000 N	-121.6000 W
Then to	12.6000 N	-122.1670 W
Then to	12.8900 N	-122.1670 W
Then to	12.8900 N	-123.0000 W
Then to	13.3500 N	-123.0000 W
Then to	13.3500 N	-122.5000 W
Then to	13.5000 N	-122.5000 W
Then to	13.5000 N	-122.1667 W
Then to	14.9350 N	-122.1667 W (being the point of commencement)

**Area D (25,160 Km<sup>2</sup>)**

	<b>Latitude</b>	<b>Longitude</b>
	11.08333 N	-117.816670 W (the point of commencement)
Then to	11.08333 N	-116.066667 W
Then to	9.89500 N	-116.066667 W
Then to	9.89500 N	-117.816670 W
Then to	11.08333 N	-117.816670 W (being the point of commencement)



### 3. Plan of Work (approved by Council)

Summary of Plan of Work for Exploration including the Programme of Activities for the first and/or the current 5-year period (Regulation 18).

NORI is currently in its second 5-year period of exploration. In this period NORI plans to:

- (i) Optimise the onshore processing and offshore production systems;
- (ii) Commence a pre-feasibility study (PFS) to analyze technical and economic viability of the mining system and metallurgical process, as well as verify capital and operating costs to a greater accuracy;
- (iii) Identify the Collector Test site in the NORI Area;
- (iv) Commence the environmental baseline studies pertaining to the Collector Test Environmental Impact Assessment (EIA) programme;
- (v) Commence the geotechnical studies pertaining to the Collector Test programme;
- (vi) Carry out metallurgical test work aimed at achieving better operating efficiencies of the process;
- (vii) Carry out studies to identify potential sites for the process plant; and
- (viii) Test the metallurgical process at pilot plant scale.

### 4. Programme of Activities and Exploration Expenditure

Section 4.1 of Annex IV of the Regulations and Schedule 2 of Annex III of the Regulations.

#### I. Agreed 5-year Programme of Activities

5-year Programme of Activities	Second 5-Year Period	
	Objective	Description
General Objectives	Optimise the onshore processing and offshore production systems	Metallurgical studies will be aimed at reducing costs and increasing revenue streams. The metallurgical process flow sheet will continue to be refined, and further metallurgical test work will be carried out aimed at achieving better operating efficiencies of the process and confirm that processing can be undertaken without generating solid waste streams.
		Further design work for the offshore system is necessary with the aim of

		better defining CAPEX and OPEX as well as decreasing production and operating risks.
	Commence a pre-feasibility study	To improve upon the technical and economic feasibility of the project the priority is to focus on carrying out further engineering studies. Optimizing the technical solution for the offshore production system and onshore processing plant is considered the best chance of decreasing the project risk. NORI therefore plans to commence a pre-feasibility study to analyze technical and economic viability of the mining system and metallurgical process, as well as verify capital and operating costs to a greater accuracy.
	Identify the Collector Test site	Identification and ground truthing of areas potentially suitable for the Collector Test, which will provide important engineering and environmental data
	Commence the environmental baseline studies pertaining to the Collector Test EIA programme	These baseline studies will play an important role in carrying out the Collector Test EIA in order to study impacts of the Collector
	Commence the geotechnical studies pertaining to the Collector Test programme	These studies will feed in to both the engineering design for the Collector as well as the overall environmental programme
	Carry out metallurgical test work aimed at achieving better operating efficiencies of the process. Studies will also be carried out to identify potential sites for the process plant	Work will be carried out to improve metal recovery from the metallurgical process, as well as to identify sites best suited for location of the processing plant.
	Test the metallurgical process at pilot plant scale	This pilot plant testing will be critical to verify the process at a larger scale and on a semi continuous basis.

II. Results achieved during reported year [#]: [year]

Annual objectives and activities			
Year	No.	Agreed Objectives	Objective: Completed, Modified, Postponed or Replaced
2017	6	Investigate the requirements for upgrading part of the NORI Resource to a higher resource category	<b>Completed.</b> NORI carried out a study to determine the sampling technique and sampling frequency required for upgrading the NORI Inferred Resource to an Indicated Resource.
		Survey cruise planning	<b>Completed.</b> NORI finalized the preparation for a cruise to NORI Area D, scheduled to mobilize in 2018. This work involved determining which areas in NORI Area D to focus the 2018 Cruise work, as well as determining the requirements for upgrading part of the NORI Area D Resource to a higher resource category (i.e. from inferred to indicated). This work in 2017 enabled NORI to finalize the program for the 2018 Cruise, the objectives of which are to: <ul style="list-style-type: none"> <li>1) Collect data required to select the site for the future Seafloor Polymetallic Nodule Collector Test and thus the location for environmental studies;</li> <li>2) Commence undertaking sampling to support an indicated resource for a project life of 30 years of production; and</li> <li>3) Collect high-resolution imagery and bathymetry of the seafloor to support engineering studies.</li> </ul>
		Refinement of NORI Area D site selection	<b>Completed.</b> In 2017 NORI made a final decision on which areas in NORI Area D to focus the 2018 Cruise work. Four sites were selected. The 2018 Cruise will then focus its efforts on those sites, and collect data required to select the site within those four sites for the future Seafloor Polymetallic Nodule Collector Test and thus location for the environmental studies.
			<b>Completed.</b> Preparatory work for the Pre-Feasibility



		<p>Offshore system engineering studies</p> <p>Onshore metallurgical process studies</p>	<p>Study (PFS) phase continued. Technical reviews were conducted and the proposed PFS work-scope was optimised and matured. A Technology Readiness Level (TRL) review exercise and a Basis of Design (BOD) exercise was also carried out</p> <p><b>Completed.</b> In 2017 development of a process to produce final metal products from polymetallic nodules was advanced. The metallurgical process was progressed through activities such as benchmarking of the technology against possible alternatives and monitoring the markets for products, in particular the continued emergence of a market for Ni, Co, Cu and Mn in the batteries and other emerging clean energy technologies. . Decision was made to evaluate an alternative flowsheet.</p>
2018	7	<p>Cruise to NORI Area D</p> <p>Update the NORI Area Geological Model and Resource Estimate to incorporate the results of the 2018 Cruise</p> <p>Carry out planning for a subsequent cruise to obtain bulk samples of polymetallic nodules necessary for larger scale metallurgical process studies</p>	<p><b>Completed.</b> All cruise objectives were met. The cruise resulted in:</p> <ul style="list-style-type: none"> <li>(i) successful delineation of collector test site;</li> <li>(ii) delineation of two potential Preservation Reference Zones; and</li> <li>(iii) sampling to upgrade the resource estimate and geological model.</li> </ul> <p><b>Completed.</b> An updated resource statement based on the results of the 2018 cruise was compiled.</p> <p><b>Completed.</b> In 2018 market engagement was carried out seeking the optimal collection methodology to obtain the bulk samples required for metallurgical and engineering purposes.</p>

		<p>Process and interpret data from the 2018 Cruise</p> <p>Produce a 3-D / 4-D interactive computer model of the offshore system</p> <p>Continue investigations in to commencing long-term environmental studies, including with respect to installing long oceanographic moorings and seasonal studies including conductivity, temperature, depth (CTD) profiles, and sampling of water, plankton and fish.</p>	<p><b>Completed.</b> Resource samples were analysed and resource estimates carried out. Sediment environmental samples were analysed and report completed.</p> <p><b>Completed.</b> A state-of-the-art virtual reality simulator of the offshore system was developed. The simulator is fully immersive and provides a technically realistic 4D (i.e., 3D visuals plus real-time control) experience of interacting with the offshore system. The VR Simulator is a dimensionally accurate and representation of the system in which components (vessel, sea, risers, current, vehicles, seabed, nodules) all interact in a physically realistic manner. Key components can be adjusted, in order to simulate both individual and system-wide responses, and scenarios can be played out.</p> <p><b>Completed.</b> The development of the mooring design for the long-term oceanographic studies was completed, aimed at commencing NORI’s physical and chemical oceanography program. This will be a key component of the environmental baseline studies required to support the NORI Area D Environmental Impact Assessment as well as providing key data to refine engineering designs. A tender process was initiated to secure a contractor to conduct the met ocean work on Campaign 4a.</p>
2019	8	Cruises to NORI Area	<p><b>Completed.</b> NORI conducted three offshore campaigns in 2019, which were all carried out safely with no significant health, safety or environmental incidents</p>

		<p>Update Preliminary Economic Assessment</p> <p>Continue offshore system engineering and onshore process engineering work</p>	<p>The first two campaigns, 6A (August 19 – October 3) and 6B (November 10 – December 21) were focused on delineating the resource and collecting biological samples and key geotechnical data. A total of 213 box cores were collected during the two campaigns and eight gravity cores.</p> <p>Three moorings were deployed in October 2019 to initiate physical and chemical oceanography studies. Two benthic-focused arrays in each of the two PRZs were deployed and a 4000 m long array (500 m depth – seafloor) due west of the test mining area was also deployed. Five repeat hydrography stations for detailed spatiotemporal chemical oceanography studies were also established during the mooring campaign.</p> <p>Strategic benthic biological samples (megafauna, macrofauna, meiofauna, microfauna) were collected from 213 box cores in NORI Area D during two campaigns in June and November. Approximately 8,200 biological samples were preserved for later analysis and use by the scientific community; More than 300 sediment chemistry samples were also collected.</p> <p><b>Completed.</b> In 2019 the PEA was completed with associated cost reductions and risk profile improvements of the new flowsheet.</p> <p><b>Completed.</b> The offshore engineering programme advanced significantly in 2019 with signing of collector test contract with Allseas. Concept selection was completed and a significant program of component testing; collectors, tracks, sensors and particle flow behavior was completed. The onshore process engineering work, involved Benchscale production of metal alloy, and site selection benchmarking and identification of several sites which meet or exceed the PEA assumptions. Identification and concept development of an alternate processing scenario was also carried out.</p>
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III. Actual and direct exploration expenditures during reported year [#]: [year]

	Anticipated annual expenditure	Actual and direct exploration expenditures	Comments
Year 6 (2017)	US\$1 Million	US\$3,716,541	
Year 7 (2018)	US\$1 Million	US\$11,553,123	Expenditure was increased due to the cruise and subsequent analysis of the results.
Year 8 (2019)	US\$1 Million	US\$14,956,072	Expenditure was increased due to the 3 cruises conducted in 2019.

## 5. Training Programme

Schedule 3 of Annex III of the Regulations.

I. 2012-2016 Training Programme

Type of training	At-sea exploration training programme (4 opportunities)	Fellowship programme (2 opportunities)	Engineering training programme (2 opportunities)
<b>Institutions</b>	Training opportunity will be provided by NORI and its contractors	University of Hawaii, University of the South Pacific, Imperial College	NORI's engineering department or contractor
<b>Duration</b>	Dependent on at-sea cruise length	5 months	4 – 6 weeks
<b>Scope</b>	Geological exploration, geophysical survey or environmental baseline studies	Graduate training based on the candidates educational background	Assist with NORI's offshore engineering programme
<b>Fields</b>	Marine geology, geophysics, marine	Marine, biology/ecology/environment	Engineering

	environment, oceanography		
<b>Qualification required</b>	Undergraduate or Masters degree in a relevant degree such as marine geology, geophysics, marine environment, oceanography	Bachelor degree in science marine, biology/ecology/environment or an equivalent education	Bachelor or Masters degree in mechanical, electrical, mining or marine engineering
<b>Financing</b>	NORI will cover all costs associated with the training opportunity	NORI will cover all costs associated with the training opportunity	NORI will cover all costs associated with the training opportunity

**I. 2017-2021 Training Programme**

<b>Type of training</b>	<b>At-sea training programme (2 opportunities)</b>	<b>Environmental Workshop (4 opportunities)</b>	<b>Study / research relating to seafloor minerals and the environment (4 opportunities)</b>
<b>Institutions</b>	Training opportunity will be provided by NORI and its contractors	Training opportunity will be provided by NORI and its environmental contractors	Not specified
<b>Duration</b>	Dependent on at-sea cruise length	4 – 5 days	Not specified
<b>Scope</b>	Geological exploration, geophysical survey or environmental baseline studies	Participation in technical and stakeholder workshops to plan and discuss NORI's environmental social impact assessment programme	Support relevant research to the seafloor minerals industry
<b>Fields</b>	Marine geology, geophysics, marine environment, oceanography	Marine, biology/ecology/environment	Environmental science, engineering or geology
<b>Qualification required</b>	Undergraduate or Masters degree in a relevant degree such as marine geology, geophysics, marine environment, oceanography	Bachelor degree in science marine, biology/ecology/environment or an equivalent education	Bachelor or Masters degree

<b>Financing</b>	NORI will cover all costs associated with the training opportunity	NORI will cover all costs associated with the training opportunity	NORI will cover all costs associated with the training opportunity
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## II. Trainings conducted up to 2019

Start year	End Year	Name of Trainee	Nationality	Gender	Type of Programme	Details	Duration
2012	2016	Mr. Sankey Deluckner	Nauruan	Male	Educational – University of South Pacific, Fiji	Undergraduate degree in engineering	4 years
2012	2015	Ms Marlaina Aroi	Nauruan	Female	Educational – University of South Pacific, Fiji	Undergraduate degree in environmental science – did not complete	3 years
2013	2013	Dody Darmawan	Indonesian	Male	At-sea	Geophysical survey & nodule sampling	October 2013
2014	2014	Dody Darmawan	Indonesian	Male	Cruise report writing	Trainee assisted with cruise report writing	March 2014
2015	2015	Ms Renee McDonald	Jamaica	Female	Environmental Workshop	Participation in workshop	11 – 12 Dec 2015
2015	2015	Bamidele Oresajo of Nigeria.	Nigeria	Male	Environmental Workshop	Visa denied to enter UK	11 – 12 Dec 2015
2019	2019	Aganze Baciunjuze Gloire	Congo	Male	At-sea	Exploration & biological cruise – box core and gravity cores	23 August - 1 October
2019	2019	Lucia Villar Munoz	Chile	Female	At-sea	Metocean, seasonal study campaign & deployment of 3 environmental monitoring moorings	9-23 October
2019	2019	Raphel Di Carlo Silva dos Santos	Brazil	Male	At-sea	Metocean, seasonal study campaign & deployment of 3 environmental monitoring moorings	9-23 Oct.
2020	2020	Matheus Bose	Brazil	Male	Environmental Workshop	Environmental Workshop	3-6 February
2020	2020	Troy Franklin	Jamaica	Male	Environmental Workshop	Environmental Workshop	3-6 February
2020	2020	Sereima Koli	Fiji	Female	Environmental Workshop	Environmental Workshop	3-6 February
2020	2020	Bamidele Oresajo	Nigeria	Male	Environmental Workshop	Denied VISA to the US, so unable to attend	3-6 February

2020	2020	Toluwanimi Victory Afolayan	Nigeria	Female	Environmental Workshop	Denied VISA to the US, so unable to attend	3-6 February
2020	2020	Titie Afuhia Kaufusi	Tonga	Male	At-sea	Nodule bulk sampling campaign	6 January – 6 February

**Training Notes:**

- 1) NORI is currently in discussions with the ISA to amend the 5-month fellowship training opportunity from its 2012 – 2016 training programme. NORI in conjunction with the University of the South Pacific (USP) would like to offer a scholarship for a student interested in pursuing a Master’s Degree Programme in Marine Management, Biology, Environmental Science, Marine Science or Earth Sciences. In addition to supporting the student complete their Master’s programme, NORI will also offer the successful applicant the opportunity to participate in a NORI offshore campaign during their studies or following the completion of their Programme. NORI will also offer the successful applicant access to NORI staff if the applicant is interested in researching a topic related to polymetallic nodules.
  
- 2) NORI’s engineering training opportunity from its 2012-2016 training programme was delayed to better align the training opportunity with NORI’s offshore engineering programme. This delay will now allow two engineering students to assist with the engineering and development of NORI’s nodule collection system. Unfortunately, no candidates applied for the 4-6 week internship when it was advertised in early 2020. NORI and ISA agreed to re-advertise the opportunity in the hopes of attracting candidates.

**III. Completed Trainings per Year**

	<b>At-Sea</b>	<b>Engineering Training</b>	<b>Fellowship Programme</b>	<b>Environmental Workshop</b>	<b>Study / research relating to seafloor minerals and the environment</b>
<b>Year 2 (2013)</b>	1 training opportunity offered – include cruise report writing in 2014				
<b>Year 4 (2015)</b>				2 training opportunities offered (NORI Env Workshop)	

<b>Year 5 (2016)</b>					2 training opportunities offered (University of South Pacific)
<b>Year 8 (2019)</b>	3 training opportunities offered				
<b>Year 9 (2020)</b>	5 training opportunities scheduled	2 Training opportunities advertised for 2020	Revised training opportunity under consideration by ISA	4 Training opportunities scheduled for Feb. 2020	
<b>Year 10 (2021)</b>					Planned for 2021



## **6. Standard clauses**

Annex IV of the Regulations.

### **STANDARD CLAUSES FOR EXPLORATION CONTRACT**

#### **SECTION 1**

##### **DEFINITIONS**

1.1 In the following clauses:

(a) “Exploration area” means that part of the Area allocated to the Contractor for exploration, described in schedule 1 hereto, as the same may be reduced from time to time in accordance with this contract and the Regulations;

(b) “Programme of activities” means the programme of activities which is set out in schedule 2 hereto as the same may be adjusted from time to time in accordance with sections 4.3 and 4.4 hereof;

(c) “Regulations” means the Regulations for Prospecting and Exploration for Polymetallic Nodules in the Area, adopted by the Authority.

1.2 Terms and phrases defined in the Regulations shall have the same meaning in these standard clauses.

1.3 In accordance with the Agreement relating to the Implementation of Part XI of the United Nations Convention of the Law of the Sea of 10 December 1982, its provisions and Part XI of the Convention are to be interpreted and applied together as a single instrument; this contract and references in this contract to the Convention are to be interpreted and applied accordingly.

1.4 This contract includes the schedules to this contract, which shall be an integral part hereof.

#### **SECTION 2**

##### **SECURITY OF TENURE**

2.1 The Contractor shall have security of tenure and this contract shall not be suspended, terminated or revised except in accordance with sections 20, 21 and 24 hereof.

2.2 The Contractor shall have the exclusive right to explore for polymetallic nodules in the exploration area in accordance with the terms and conditions of this contract. The Authority shall

ensure that no other entity operates in the exploration area for a different category of resources in a manner that might unreasonably interfere with the operations of the Contractor.

2.3 The Contractor, by notice to the Authority, shall have the right at any time to renounce without penalty the whole or part of its rights in the exploration area, provided that the Contractor shall remain liable for all obligations accrued prior to the date of such renunciation in respect of the area renounced.

2.4 Nothing in this contract shall be deemed to confer any right on the Contractor other than those rights expressly granted herein. The Authority reserves the right to enter into contracts with respect to resources other than polymetallic nodules with third parties in the area covered by this contract.

### **SECTION 3**

#### **CONTRACT TERM**

3.1 This contract shall enter into force on signature by both parties and shall remain in force for a period of fifteen years thereafter unless:

(a) The Contractor obtains a contract for exploitation in the exploration area which enters into force before the expiration of such period of fifteen years; or

(b) The contract is sooner terminated,

provided that the term of the contract may be extended in accordance with sections 3.2 and 17.2 hereof.

3.2 Upon application by the Contractor, not later than six months before the expiration of this contract, this contract may be extended for periods of not more than five years each on such terms and conditions as the Authority and the Contractor may then agree in accordance with the Regulations. Such extensions shall be approved if the Contractor has made efforts in good faith to comply with the requirements of this contract but for reasons beyond the Contractor's control has been unable to complete the necessary preparatory work for proceeding to the exploitation stage or if the prevailing economic circumstances do not justify proceeding to the exploitation stage.

3.3 Notwithstanding the expiration of this contract in accordance with section 3.1 hereof, if the Contractor has, at least 90 days prior to the date of expiration, applied for a contract for exploitation, the Contractor's rights and obligations under this contract shall continue until such time as the application has been considered and a contract for exploitation has been issued or refused.

## **SECTION 4**

### **EXPLORATION**

4.1 The Contractor shall commence exploration in accordance with the time schedule stipulated in the programme of activities set out in schedule 2 hereto and shall adhere to such time periods or any modification thereto as provided for by this contract.

4.2 The Contractor shall carry out the programme of activities set out in schedule 2 hereto. In carrying out such activities the Contractor shall spend in each contract year not less than the amount specified in such programme, or any agreed review thereof, in actual and direct exploration expenditures.

4.3 The Contractor, with the consent of the Authority, which consent shall not be unreasonably withheld, may from time to time make such changes in the programme of activities and the expenditures specified therein as may be necessary and prudent in accordance with good mining industry practice, and taking into account the market conditions for the metals contained in polymetallic nodules and other relevant global economic conditions.

4.4 Not later than 90 days prior to the expiration of each five-year period from the date on which this contract enters into force in accordance with section 3 hereof, the Contractor and the Secretary-General shall jointly undertake a review of the implementation of the plan of work for exploration under this contract. The Secretary-General may require the Contractor to submit such additional data and information as may be necessary for the purposes of the review. In the light of the review, the Contractor shall indicate its programme of activities for the following five-year period, including a revised schedule of anticipated yearly expenditures, making such adjustments to its previous programme of activities as are necessary. Schedule 2 hereto shall be adjusted accordingly.

## **SECTION 5**

### **ENVIRONMENTAL MONITORING**

5.1 The Contractor shall take necessary measures to prevent, reduce and control pollution and other hazards to the marine environment arising from its activities in the Area as far as reasonably possible using the best technology available to it.

5.2 The Contractor shall, in accordance with the Regulations, gather environmental baseline data as exploration activities progress and develop and shall establish environmental baselines against which to assess the likely effects of the Contractor's activities on the marine environment.

5.3 The Contractor shall, in accordance with the Regulations, establish and carry out a programme to monitor and report on such effects on the marine environment. The Contractor shall cooperate with the Authority in the implementation of such monitoring.

5.4 The Contractor shall, within 90 days of the end of each calendar year, report to the Secretary-General on the implementation and results of the monitoring programme referred to in section 5.3 hereof and shall submit data and information in accordance with the Regulations.

5.5 Prior to the commencement of testing of collecting systems and processing operations, the Contractor shall submit to the Authority:

(a) A site-specific environmental impact statement based on available meteorological, oceanographic and environmental data collected during the preceding phases of exploration and containing data that could be used to establish an environmental baseline against which to assess the likely effect of the mining tests;

(b) An assessment of the effects on the marine environment of the proposed tests of collecting systems;

(c) A proposal for a monitoring programme to determine the effect on the marine environment of the equipment that will be used during the proposed mining tests.

## **SECTION 6**

### **CONTINGENCY PLANS AND EMERGENCIES**

6.1 The Contractor shall, prior to the commencement of its programme of activities under this contract, submit to the Secretary-General a contingency plan to respond effectively to incidents that are likely to cause serious harm to the marine environment arising from the Contractor's activities at sea in the exploration area. Such contingency plan shall establish special procedures and provide for adequate and appropriate equipment to deal with such incidents and, in particular, shall include arrangements for:

(a) The immediate raising of a general alarm in the area of the exploration activities;

(b) Immediate notification to the Secretary-General;

(c) The warning of ships which might be about to enter the immediate vicinity;

- (d) A continuing flow of full information to the Secretary-General relating to particulars of the contingency measures already taken and further actions required;
- (e) The removal, as appropriate, of polluting substances;
- (f) The reduction and, so far as reasonably possible, prevention of serious harm to the marine environment, as well as mitigation of such effects;
- (g) As appropriate, cooperation with other contractors with the Authority to respond to an emergency; and
- (h) Periodic emergency response exercises.

6.2 The Contractor shall promptly report to the Secretary-General any incident arising from its activities that has caused or is likely to cause serious harm to the marine environment. Each such report shall contain the details of such incident, including, inter alia:

- (a) The coordinates of the area affected or which can reasonably be anticipated to be affected;
- (b) The description of the action being taken by the Contractor to prevent, contain, minimize and repair the serious harm to the marine environment;
- (c) A description of the action being taken by the Contractor to monitor the effects of the incident on the marine environment; and
- (d) Such supplementary information as may reasonably be required by the Secretary-General.

6.3 The Contractor shall comply with emergency orders issued by the Council and immediate measures of a temporary nature issued by the Secretary-General in accordance with the Regulations, to prevent, contain, minimize or repair serious harm to the marine environment, which may include orders to the Contractor to immediately suspend or adjust any activities in the exploration area.

6.4 If the Contractor does not promptly comply with such emergency orders or immediate measures of a temporary nature, the Council may take such reasonable measures as are necessary to prevent, contain, minimize or repair any such serious harm to the marine environment at the Contractor's expense. The Contractor shall promptly reimburse the Authority the amount of such expenses. Such expenses shall be in addition to any monetary penalties which may be imposed on the Contractor pursuant to the terms of this contract or the Regulations.

## **SECTION 7**

### **OBJECTS OF AN ARCHAEOLOGICAL OR HISTORICAL NATURE**

The Contractor shall immediately notify the Secretary-General in writing of any finding in the exploration area of an object of an archaeological or historical nature and its location. Following the finding of any such object of an archaeological or historical nature in the exploration area, the Contractor shall take all reasonable measures to avoid disturbing such object.

## **SECTION 8**

### **TRAINING**

8.1 In accordance with the Regulations, the Contractor shall, prior to the commencement of exploration under this contract, submit to the Authority for approval proposed training programmes for the training of personnel of the Authority and developing States, including the participation of such personnel in all of the Contractor's activities under this contract.

8.2. The scope and financing of the training programme shall be subject to negotiation between the Contractor, the Authority and the sponsoring State or States.

8.3 The Contractor shall conduct training programmes in accordance with the specific programme for the training of personnel referred to in section 8.1 hereof approved by the Authority in accordance with the Regulations, which programme, as revised and developed from time to time, shall become a part of this contract as schedule 3.

## **SECTION 9**

### **BOOKS AND RECORDS**

The Contractor shall keep a complete and proper set of books, accounts and financial records, consistent with internationally accepted accounting principles. Such books, accounts and financial records shall include information which will fully disclose the actual and direct expenditures for exploration and such other information as will facilitate an effective audit of such expenditures.

## **SECTION 10**

### **ANNUAL REPORTS**

10.1 The Contractor shall, within 90 days of the end of each calendar year, submit a report to the Secretary-General covering its programme of activities in the exploration area and containing, as applicable, information in sufficient detail on:

- (a) The exploration work carried out during the calendar year, including maps, charts and graphs illustrating the work that has been done and the results obtained;
- (b) The equipment used to carry out the exploration work, including the results of tests conducted of proposed mining technologies, but not equipment design data; and
- (c) The implementation of training programmes, including any proposed revisions to or developments of such programmes.

10.2 Such reports shall also contain:

- (a) The results obtained from environmental monitoring programmes, including observations, measurements, evaluations and analyses of environmental parameters;
- (b) A statement of the quantity of polymetallic nodules recovered as samples or for the purpose of testing;
- (c) A statement, in conformity with internationally accepted accounting principles and certified by a duly qualified firm of public accountants, or, where the Contractor is a State or a state enterprise, by the sponsoring State, of the actual and direct exploration expenditures of the Contractor in carrying out the programme of activities during the Contractor's accounting year. Such expenditures may be claimed by the contractor as part of the contractor's development costs incurred prior to the commencement of commercial production; and
- (d) Details of any proposed adjustments to the programme of activities and the reasons for such adjustments.

10.3 The Contractor shall also submit such additional information to supplement the reports referred to in sections 10.1 and 10.2 hereof as the Secretary-General may from time to time reasonably require in order to carry out the Authority's functions under the Convention, the Regulations and this contract.

10.4 The Contractor shall keep, in good condition, a representative portion of samples of the polymetallic nodules obtained in the course of exploration until the expiration of this contract. The

Authority may request the Contractor in writing to deliver to it for analysis a portion of any such sample obtained during the course of exploration.

## **SECTION 11**

### **DATA AND INFORMATION TO BE SUBMITTED ON EXPIRATION OF THE CONTRACT**

11.1 The Contractor shall transfer to the Authority all data and information that are both necessary for and relevant to the effective exercise of the powers and functions of the Authority in respect of the exploration area in accordance with the provisions of this section.

11.2 Upon expiration or termination of this contract the Contractor, if it has not already done so, shall submit the following data and information to the Secretary-General:

(a) Copies of geological, environmental, geochemical and geophysical data acquired by the Contractor in the course of carrying out the programme of activities that are necessary for and relevant to the effective exercise of the powers and functions of the Authority in respect of the exploration area;

(b) The estimation of mineable areas, when such areas have been identified, which shall include details of the grade and quantity of the proven, probable and possible polymetallic nodule reserves and the anticipated mining conditions;

(c) Copies of geological, technical, financial and economic reports made by or for the Contractor that are necessary for and relevant to the effective exercise of the powers and functions of the Authority in respect of the exploration area;

(d) Information in sufficient detail on the equipment used to carry out the exploration work, including the results of tests conducted of proposed mining technologies, but not equipment design data; and

(e) A statement of the quantity of polymetallic nodules recovered as samples or for the purpose of testing.

11.3 The data and information referred to in section 11.2 hereof shall also be submitted to the Secretary-General if, prior to the expiration of this contract, the Contractor applies for approval of a plan of work for exploitation or if the Contractor renounces its rights in the exploration area to the extent that such data and information relates to the renounced area.



## **SECTION 12**

### **CONFIDENTIALITY**

Data and information transferred to the Authority in accordance with this contract shall be treated as confidential in accordance with the provisions of the Regulations.

## **SECTION 13**

### **UNDERTAKINGS**

13.1 The Contractor shall carry out exploration in accordance with the terms and conditions of this contract, the Regulations, Part XI of the Convention, the Agreement and other rules of international law not incompatible with the Convention.

13.2 The Contractor undertakes:

- (a) To accept as enforceable and comply with the terms of this contract;
- (b) To comply with the applicable obligations created by the provisions of the Convention, the rules, regulations and procedures of the Authority and the decisions of the relevant organs of the Authority;
- (c) To accept control by the Authority of activities in the Area as authorized by the Convention;
- (d) To fulfil its obligations under this contract in good faith; and
- (e) To observe, as far as reasonably practicable, any recommendations which may be issued from time to time by the Legal and Technical Commission.

13.3 The Contractor shall actively carry out the programme of activities:

- (a) With due diligence, efficiency and economy;
- (b) With due regard to the impact of its activities on the marine environment; and
- (c) With reasonable regard for other activities in the marine environment.

13.4 The Authority undertakes to fulfil in good faith its powers and functions under the Convention and the Agreement in accordance with article 157 of the Convention.

## **SECTION 14**

### **INSPECTION**

14.1 The Contractor shall permit the Authority to send its inspectors on board vessels and installations used by the Contractor to carry out activities in the exploration area to:

- (a) Monitor the Contractor's compliance with the terms and conditions of this contract and the Regulations; and
- (b) Monitor the effects of such activities on the marine environment.

14.2 The Secretary-General shall give reasonable notice to the Contractor of the projected time and duration of inspections, the name of the inspectors and any activities the inspectors are to perform that are likely to require the availability of special equipment or special assistance from personnel of the Contractor.

14.3 Such inspectors shall have the authority to inspect any vessel or installation, including its log, equipment, records, facilities, all other recorded data and any relevant documents which are necessary to monitor the Contractor's compliance.

14.4 The Contractor, its agents and employees shall assist the inspectors in the performance of their duties and shall:

- (a) Accept and facilitate prompt and safe boarding of vessels and installations by inspectors;
- (b) Cooperate with and assist in the inspection of any vessel or installation conducted pursuant to these procedures;
- (c) Provide access to all relevant equipment, facilities and personnel on vessels and installations at all reasonable times;
- (d) Not obstruct, intimidate or interfere with inspectors in the performance of their duties;
- (e) Provide reasonable facilities, including, where appropriate, food and accommodation, to inspectors; and
- (f) Facilitate safe disembarkation by inspectors.

14.5 Inspectors shall avoid interference with the safe and normal operations on board vessels and installations used by the Contractor to carry out activities in the area visited and shall act in accordance with the Regulations and the measures adopted to protect confidentiality of data and information.

14.6 The Secretary-General and any duly authorized representatives of the Secretary-General, shall have access, for purposes of audit and examination, to any books, documents, papers and records of the Contractor which are necessary and directly pertinent to verify the expenditures referred to in section 10.2 (c).

14.7 The Secretary-General shall provide relevant information contained in the reports of inspectors to the Contractor and its sponsoring State or States where action is necessary.

14.8 If for any reason the contractor does not pursue exploration and does not request a contract for exploitation, it shall, before withdrawing from the exploration area, notify the Secretary-General in writing in order to permit the Authority, if it so decides, to carry out an inspection pursuant to this section.

## **SECTION 15**

### **SAFETY, LABOUR AND HEALTH STANDARDS**

15.1 The Contractor shall comply with the generally accepted international rules and standards established by competent international organizations or general diplomatic conferences concerning the safety of life at sea, and the prevention of collisions and such rules, regulations and procedures as may be adopted by the Authority relating to safety at sea. Each vessel used for carrying out activities in the Area shall possess current valid certificates required by and issued pursuant to such international rules and standards.

15.2 The Contractor shall, in carrying out exploration under this contract, observe and comply with such rules, regulations and procedures as may be adopted by the Authority relating to protection against discrimination in employment, occupational safety and health, labour relations, social security, employment security and living conditions at the work site. Such rules, regulations and procedures shall take into account conventions and recommendations of the International Labour Organization and other competent international organizations.

## **SECTION 16**

### **RESPONSIBILITY AND LIABILITY**

16.1 The Contractor shall be liable for the actual amount of any damage, including damage to the marine environment, arising out of its wrongful acts or omissions, and those of its employees, subcontractors, agents and all persons engaged in working or acting for them in the conduct of its

operations under this contract, including the costs of reasonable measures to prevent or limit damage to the marine environment, account being taken of any contributory acts or omissions by the Authority.

16.2 The Contractor shall indemnify the Authority, its employees, subcontractors and agents against all claims and liabilities of any third party arising out of any wrongful acts or omissions of the Contractor and its employees, agents and subcontractors, and all persons engaged in working or acting for them in the conduct of its operations under this contract.

16.3 The Authority shall be liable for the actual amount of any damage to the Contractor arising out of its wrongful acts in the exercise of its powers and functions, including violations under article 168, paragraph 2, of the Convention, account being taken of contributory acts or omissions by the Contractor, its employees, agents and subcontractors, and all persons engaged in working or acting for them in the conduct of its operations under this contract.

16.4 The Authority shall indemnify the Contractor, its employees, subcontractors, agents and all persons engaged in working or acting for them in the conduct of its operations under this contract, against all claims and liabilities of any third party arising out of any wrongful acts or omissions in the exercise of its powers and functions hereunder, including violations under article 168, paragraph 2, of the Convention.

16.5 The Contractor shall maintain appropriate insurance policies with internationally recognized carriers, in accordance with generally accepted international maritime practice.

## **SECTION 17**

### **FORCE MAJEURE**

17.1 The Contractor shall not be liable for an unavoidable delay or failure to perform any of its obligations under this contract due to force majeure. For the purposes of this contract, force majeure shall mean an event or condition that the Contractor could not reasonably be expected to prevent or control; provided that the event or condition was not caused by negligence or by a failure to observe good mining industry practice.

17.2 The Contractor shall, upon request, be granted a time extension equal to the period by which performance was delayed hereunder by force majeure and the term of this contract shall be extended accordingly.

17.3 In the event of force majeure, the Contractor shall take all reasonable measures to remove its inability to perform and comply with the terms and conditions of this contract with a minimum of delay; provided that the Contractor shall not be obligated to resolve or terminate any labour dispute or any other disagreement with a third party except on terms satisfactory to it or pursuant to a final decision of any agency having jurisdiction to resolve the dispute.

17.4 The Contractor shall give notice to the Authority of the occurrence of an event of force majeure as soon as reasonably possible, and similarly give notice to the Authority of the restoration of normal conditions.

## **SECTION 18**

### **DISCLAIMER**

Neither the Contractor nor any affiliated company or subcontractor shall in any manner claim or suggest, whether expressly or by implication, that the Authority or any official thereof has, or has expressed, any opinion with respect to polymetallic nodules in the exploration area and a statement to that effect shall not be included in or endorsed on any prospectus, notice, circular, advertisement, press release or similar document issued by the Contractor, any affiliated company or any subcontractor that refers directly or indirectly to this contract. For the purposes of this section, an “affiliated company” means any person, firm or company or State-owned entity controlling, controlled by, or under common control with, the Contractor.

## **SECTION 19**

### **RENUNCIATION OF RIGHTS**

The Contractor, by notice to the Authority, shall have the right to renounce its rights and terminate this contract without penalty, provided that the Contractor shall remain liable for all obligations accrued prior to the date of such renunciation and those obligations required to be fulfilled after termination in accordance with the Regulations.

## **SECTION 20**

### **TERMINATION OF SPONSORSHIP**

20.1 If the nationality or control of the Contractor changes or the Contractor's sponsoring State, as defined in the Regulations, terminates its sponsorship, the Contractor shall promptly notify the Authority forthwith.

20.2 In either such event, if the Contractor does not obtain another sponsor meeting the requirements prescribed in the Regulations which submits to the Authority a certificate of sponsorship for the Contractor in the prescribed form within the time specified in the Regulations, this contract shall terminate forthwith.

## **SECTION 21**

### **SUSPENSION AND TERMINATION OF CONTRACT AND PENALTIES**

21.1 The Council may suspend or terminate this contract, without prejudice to any other rights that the Authority may have, if any of the following events should occur:

(a) If, in spite of written warnings by the Authority, the Contractor has conducted its activities in such a way as to result in serious persistent and wilful violations of the fundamental terms of this contract, Part XI of the Convention, the Agreement and the rules, regulations and procedures of the Authority; or

(b) If the Contractor has failed to comply with a final binding decision of the dispute settlement body applicable to it; or

(c) If the Contractor becomes insolvent or commits an act of bankruptcy or enters into any agreement for composition with its creditors or goes into liquidation or receivership, whether compulsory or voluntary, or petitions or applies to any tribunal for the appointment of a receiver or a trustee or receiver for itself or commences any proceedings relating to itself under any bankruptcy, insolvency or readjustment of debt law, whether now or hereafter in effect, other than for the purpose of reconstruction.

21.2 Any suspension or termination shall be by notice, through the Secretary-General, which shall include a statement of the reasons for taking such action. The suspension or termination shall be effective 60 days after such notice, unless the Contractor within such period disputes the

Authority's right to suspend or terminate this contract in accordance with Part XI, section 5, of the Convention.

21.3 If the Contractor takes such action, this contract shall only be suspended or terminated in accordance with a final binding decision in accordance with Part XI, section 5, of the Convention.

21.4 If the Council has suspended this contract, the Council may by notice require the Contractor to resume its operations and comply with the terms and conditions of this contract, not later than 60 days after such notice.

21.5 In the case of any violation of this contract not covered by section 21.1 (a) hereof, or in lieu of suspension or termination under section 21.1 hereof, the Council may impose upon the Contractor monetary penalties proportionate to the seriousness of the violation.

21.6 The Council may not execute a decision involving monetary penalties until the Contractor has been accorded a reasonable opportunity to exhaust the judicial remedies available to it pursuant to Part XI, section 5, of the Convention.

21.7 In the event of termination or expiration of this contract, the Contractor shall comply with the Regulations and shall remove all installations, plant, equipment and materials in the exploration area and shall make the area safe so as not to constitute a danger to persons, shipping or to the marine environment.

## **SECTION 22**

### **TRANSFER OF RIGHTS AND OBLIGATIONS**

22.1 The rights and obligations of the Contractor under this contract may be transferred in whole or in part only with the consent of the Authority and in accordance with the Regulations.

22.2 The Authority shall not unreasonably withhold consent to the transfer if the proposed transferee is in all respects a qualified applicant in accordance with the Regulations and assumes all of the obligations of the Contractor and if the transfer does not confer to the transferee a plan of work, the approval of which would be forbidden by Annex 3, article 6, paragraph 3 (c), of the Convention.

22.3 The terms, undertakings and conditions of this contract shall inure to the benefit of and be binding upon the parties hereto and their respective successors and assigns.

## **SECTION 23**

### **NO WAIVER**

No waiver by either party of any rights pursuant to a breach of the terms and conditions of this contract to be performed by the other party shall be construed as a waiver by the party of any succeeding breach of the same or any other term or condition to be performed by the other party.

## **SECTION 24**

### **REVISION**

24.1 When circumstances have arisen or are likely to arise which, in the opinion of the Authority or the Contractor, would render this contract inequitable or make it impracticable or impossible to achieve the objectives set out in this contract or in Part XI of the Convention or the Agreement, the parties shall enter into negotiations to revise it accordingly.

24.2 This contract may also be revised by agreement between the Contractor and the Authority to facilitate the application of any rules, regulations and procedures adopted by the Authority subsequent to the entry into force of this contract.

24.3 This contract may be revised, amended or otherwise modified only with the consent of the Contractor and the Authority by an appropriate instrument signed by the authorized representatives of the parties.

## **SECTION 25**

### **DISPUTES**

25.1 Any dispute between the parties concerning the interpretation or application of this contract shall be settled in accordance with Part XI, section 5, of the Convention.

25.2 Any final decision rendered by a court or tribunal having jurisdiction under the Convention relating to the rights and obligations of the Authority and of the Contractor shall be enforceable in the territory of each State Party to the Convention.



## **SECTION 26**

### **NOTICE**

26.1 Any application, request, notice, report, consent, approval, waiver, direction or instruction hereunder shall be made by the Secretary-General or by the designated representative of the Contractor, as the case may be, in writing. Service shall be by hand, or by telex, facsimile or registered airmail to the Secretary-General at the headquarters of the Authority or to the designated representative.

26.2 Either party shall be entitled to change any such address to any other address by not less than ten days' notice to the other party.

26.3 Delivery by hand shall be effective when made. Delivery by telex shall be deemed to be effective on the business day following the day when the "answer back" appears on the sender's telex machine. Delivery by facsimile shall be effective when the "transmit confirmation report" confirming the transmission to the recipient's published facsimile number is received by the transmitter. Delivery by registered airmail shall be deemed to be effective 21 days after posting.

26.4 Notice to the designated representative of the Contractor shall constitute effective notice to the Contractor for all purposes under this contract, and the designated representative shall be the Contractor's agent for the service of process or notification in any proceeding of any court or tribunal having jurisdiction.

26.5 Notice to the Secretary-General shall constitute effective notice to the Authority for all purposes under this contract, and the Secretary-General shall be the Authority's agent for the service of process or notification in any proceeding of any court or tribunal having jurisdiction.

## **SECTION 27**

### **APPLICABLE LAW**

27.1 This contract shall be governed by the terms of this contract, the rules, regulations and procedures of the Authority, Part XI of the Convention, the Agreement and other rules of international law not incompatible with the Convention.

27.2 The Contractor, its employees, subcontractors, agents and all persons engaged in working or acting for them in the conduct of its operations under this contract shall observe the applicable law

referred to in section 27.1 hereof and shall not engage in any transaction, directly or indirectly, prohibited by the applicable law.

27.3 Nothing contained in this contract shall be deemed an exemption from the necessity of applying for and obtaining any permit or authority that may be required for any activities under this contract.

## **SECTION 28**

### **INTERPRETATION**

The division of this contract into sections and subsections and the insertion of headings are for convenience of reference only and shall not affect the construction or interpretation hereof.

## **SECTION 29**

### **ADDITIONAL DOCUMENTS**

Each party hereto agrees to execute and deliver all such further instruments, and to do and perform all such further acts and things as may be necessary or expedient to give effect to the provisions of this contract.