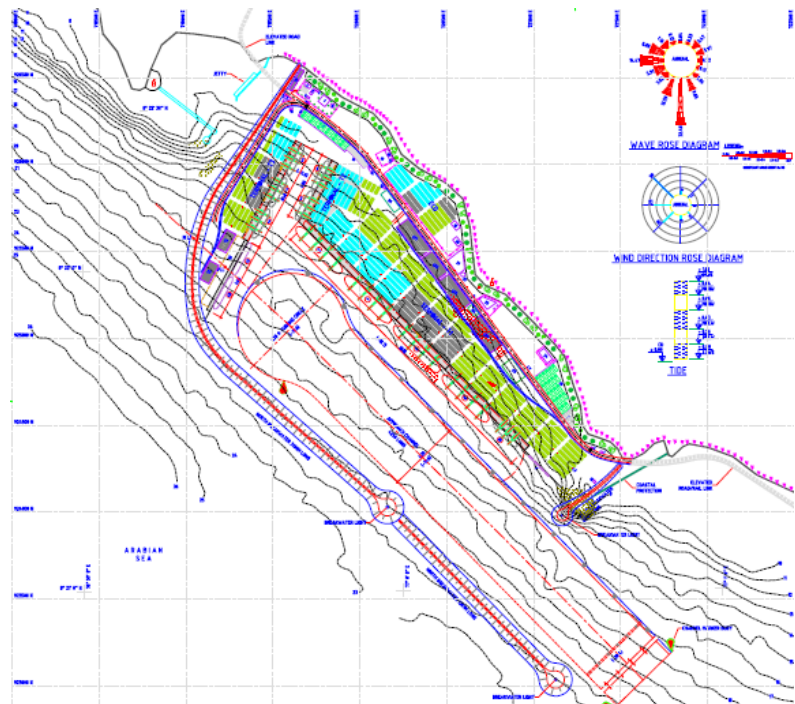
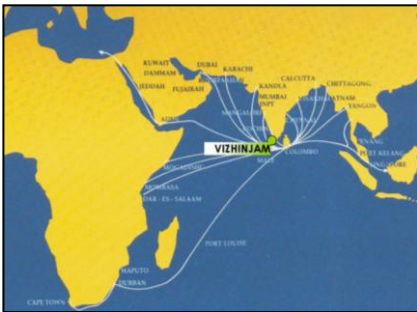


**GOVERNMENT OF KERALA**

**DEVELOPMENT OF AN  
INTERNATIONAL DEEPWATER  
SEAPORT AND CONTAINER  
TRANSSHIPMENT TERMINAL AT  
VIZHINJAM,  
TRIVANDRUM, KERALA, INDIA**



**DRAFT LICENSE AGREEMENT  
Volume 3 of RFP**

**October 2007**



**VIZHINJAM INTERNATIONAL  
SEAPORT LIMITED**

**IL&FS** INFRASTRUCTURE DEVELOPMENT  
CORPORATION LIMITED

**LICENSE AGREEMENT**

**BETWEEN**

**GOVERNMENT OF KERALA  
(THE LICENSOR)**

**AND**

..... LTD.  
**(THE LICENSEE)**

**FOR**

**DEVELOPMENT AND MANAGEMENT OF AN INTERNATIONAL  
DEEPWATER SEAPORT AND CONTAINER TRANSSHIPMENT TERMINAL  
AT VIZHINJAM, TRIVANDRUM, KERALA**

**DATED .....**

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## LICENSE AGREEMENT

**THIS LICENSE AGREEMENT** is made at \_\_\_\_\_ on this the \_\_\_\_\_ day of \_\_\_\_\_ Two Thousand and Eight (2008) between:

**GOVERNOR, STATE OF KERALA**, represented by Secretary to the Government, Ports Department, Government Secretariat, Thiruvananthapuram - 695 001, Kerala; hereinafter referred to as "**the Licensor**" (which expression shall, unless repugnant to the context or meaning thereof, include its authorized representatives, successors-in-interest and assigns) of the ONE PART; AND \_\_\_\_\_ LIMITED, a company registered under the Companies Act, 1956, and having its registered office at \_\_\_\_\_ hereinafter referred to as "**the Licensee**" (which expression shall, unless repugnant to the context or meaning thereof, include its successors-in-interest and permitted assigns) of the OTHER PART.

### WHEREAS:

- (a) The Licensor is desirous of implementing a project envisaging the design, finance, development, construction, operation and maintenance of an international deepwater seaport and container transshipment terminal at Vizhinjam in Thiruvananthapuram District, Kerala, India with focus on transshipment operations through private sector participation;
- (b) In August 2007, the Licensor, through Vizhinjam International Seaport Ltd., a Government of Kerala Undertaking and the Nodal Agency appointed by the Licensor (hereinafter referred to as the '**Sponsor**') for the development of the deepwater seaport and transshipment terminal at Vizhinjam as mentioned herein, had issued an advertisement in various national and international newspapers inviting applications from the interested parties in accordance with the Request for Proposal, to bid for the Project;
- (c) In response to the advertisement and the Request for Proposal from the Licensor, the Licensor received proposals from various bidders including the proposal dated [ ] submitted by the Consortium led by \_\_\_\_\_, as per the criteria laid down in the Request For Proposal;
- (d) The Licensor, after evaluating all the proposals received by it from various parties and after due completion of the three stage bid evaluation process and obtaining necessary clearance from Government of India has accepted the proposal dated [ ] submitted by the Consortium, the Consortium having emerged as the Highest Evaluated Bidder and has intimated to the Consortium

that the Special Purpose Company to be incorporated by the Consortium would be selected as the Licensee vide Letter of Intent for Award of License dated [ ];

- (f) An Order Vide \_\_\_\_\_ has been passed for the award of the license to the Licensee.;
- (g) On [ ], the members of the Consortium have incorporated the Licensee as a Special Purpose Company under the Companies Act, 1956, with the main object of implementing the Project in accordance with terms outlined herein. The Licensee commenced business vide Certificate of Commencement of Business dated [ ]. The Consortium/Licensee and the Licensor shall execute appropriate Loan Agreement, Shareholders Agreement, Share Subscription Agreement or such other definitive Agreement/s, as may be applicable and mutually agreed];
- (h) Following the issue of the Letter of Intent for Award of License, and receipt of the Performance Guarantee as set out in the Request for Proposal, the Licensor has agreed to grant License to the Licensee to implement the Project on the terms, conditions and covenants hereinafter set forth in this Agreement;
- (i) The Consortium has made a payment of the project development fee referred to in Article 5.1, to the Licensor within 14 Days of issue of Letter of Intent;
- (j) The Licensor is in the process of setting up a port regulatory authority for the State of Kerala;
- (k) The Parties have reduced to writing the terms and conditions of their understanding in this Agreement.

**NOW, THIS AGREEMENT WITNESSETH AS FOLLOWS:**

## ARTICLE 1

### DEFINITIONS AND INTERPRETATION

#### 1.1 Definitions

In this Agreement, unless the context otherwise requires the following terms shall have the following meanings: -

- (i) **“Agreement”** means this agreement as of date hereof, including Recitals, Schedules and Appendices hereto as may be amended in accordance with the provisions hereof and applicable laws.
- (ii) **“Appendix”** means any of the schedules, supplements or documents, appended to this Agreement.
- (iii) **“Applicable Laws”** means any statute, law, regulation, ordinance, rule, judgment, order, decree, bye-law, approval, directive, guideline, policy, requirement or other governmental restriction or any similar form of decision of, or determination by, or any interpretation or administration having the force of law of any of the foregoing, by any Government Authority having jurisdiction over the matter in question, whether in effect as of the date of this Agreement or thereafter.
- (iv) **“Applicable Permits”** means any and all permissions, clearances, licenses, authorisations, consents, no-objections, approvals of or from any Government Authority required in connection with the Project and for undertaking, performing or discharging the obligations contemplated by this Agreement or any other Transaction Document.
- (v) **“Completion Certificate”** means the certificate to be issued by the Independent Engineer upon the Licensee attaining a rated container handling annual capacity of 1,300,000.00 Twenty-foot Equivalent Units (TEUs) in the manner set out in Article 3.3.
- (vi) **“Consortium”** means the group of firms consisting of (i) \_\_\_\_\_, (ii) \_\_\_\_\_, (iii) \_\_\_\_\_formed pursuant to the Consortium Agreement entered into by and between themselves, for the purpose of submitting the Proposal and participate in the Bidding process for the Project and having been selected for the Project, to implement the License Agreement through a Special Purpose Company formed and incorporated by them under the Companies Act, 1956, as outlined in the Consortium Agreement entered into between the Members of the Consortium dated \_\_\_\_\_ (Appendix 1).
- (vii) **“Construction Phase”** means the period from the Date of Award of License to the date of attainment of a rated container handling capacity of 1,300,000.00

Twenty-foot Equivalent Units (TEUs) per annum, as certified by the Independent Engineer appointed for the purpose.

- (viii) **“Contractor”** means a reputed Person with whom the Licensee has entered into/may enter into a contract relating any works and /or operation and maintenance of the Project Facilities and Services.
- (ix) **“Date of Award of License”** means the date of this Agreement.
- (x) **“Date of Commercial Operation”** means the date on which the Licensee receives the Landing and Shipping Declaration from the Customs Department.
- (xi) **“Day”** means the twenty four (24) hour period beginning and ending at 12:00 midnight Indian Standard Time.
- (xii) **“Debt Due”** means the aggregate sum of all amounts outstanding solely under the Financing Documents and availed exclusively by the Licensee for the Project and by no other Person or for any other purpose.
- (xiii) **“Detailed Project Report”** or **“DPR”** means the detailed project report submitted by the Licensee to the Licensor for development of the Project, as per the provisions of Clause 3.4.
- (xiv) **“Depreciated Historic Cost”** or **“DHC”** means the depreciated historic cost as computed in accordance with Appendix 2.
- (xv) **“Designs and Drawings”** means the conceptual and detailed designs and drawings, backup technical information required for the Project and all calculations, samples, patterns, models, specifications and other technical information submitted by the Licensee from time to time and approved by the Licensor in accordance with the provisions of this Agreement.
- (xvi) **“Environmental Law”** means any statute, rule, regulation, ordinance, code, guideline or policy having the force of law, in each case, applicable to the Project now or hereafter in effect and any applicable judicial or administrative interpretation, pronouncement, order, decree or judgment, relating to the environment, health and safety.
- (xvii) **“Environment Management Plan”** means the environment management plan as set out in Appendix 4.
- (xviii) **“Expert”** means any person, body or organisation of repute with recognised technical/ professional expertise in respect of any field, matter or subject relevant for the purpose of this Agreement, appointed by the Parties by mutual consent.



- (xix) **“Financial Assistance”** means all funded and non-funded financial assistance availed solely by the Licensee, including but not limited to loans, cash credit, overdrafts, bills purchase/discounting, hire purchase facilities, lease finance, financial/performance guarantees, letters of credit and/ or other credit facilities required exclusively for the Project.
- (xx) **“Financial Closure”** means the date on which the Financing Documents providing for Financial Assistance by the Lenders have become effective and the Licensee has access to such Financial Assistance.
- (xxi) **“Financing Documents”** means, collectively, the documents executed in favour of or entered into with the Lenders, solely by the Licensee and exclusively in respect of the Financial Assistance and includes any document/written arrangement providing security for the Financial Assistance.
- (xxii) **“First Right of Refusal”** means in the event of the Licensor deciding to go for a bidding/selection process for the operation of the Project, after expiry of the License Period of 30 years, for another term, the right of first refusal shall be given to the Licensee to match the winning bid/preferred proposal for such another term within 60 days from the date of such offer from the Licensor, subject to such terms and conditions as may be laid down at such time by the Licensor.
- (xxiii) **“Force Majeure Event”** shall have the meaning ascribed to it in Article 9.1 of this Agreement.
- (xxiv) **“GoI”** means the Government of India.
- (xxv) **“GoK”** means the Government of Kerala.
- (xxvi) **“Government Authority”** means GoI, any state government or any governmental department, commission, board, body, bureau, agency, authority, instrumentality, court or other judicial or administrative body, central, state, or local, having jurisdiction over the Licensee, the Licensor’s Assets, the Project Facilities and Services or any portion thereof.
- (xxvii) **“Good Industry Practice”** means the exercise of that degree of skill, diligence and prudence and those practices, methods, specifications and standards of equipment, safety and performance, as may change from time to time and which would reasonably and ordinarily be expected to be used by a skilled and experienced international operator engaged in construction, operation and maintenance of facilities, equipment or systems of the type and size similar to the Project Facilities and Services.

- (xxviii) **"Independent Engineer"** means the independent engineer referred to in Clause 3.3 herein.
- (xxix) **"Lead Member"** means [to be named]
- (xxx) **"Lenders"** means any Person(s)/Firm(s)/Fund(s) based in India or abroad providing Financial Assistance to the Project under the Financing Documents and includes a trustee for the holders of debentures/ or other debt instruments issued by the Licensee to Finance the Project.
- (xxxi) **"License"** means the authorisation granted by the Licensor to the Licensee under this Agreement for implementing the Project and providing Project Facilities and Services and subsequently transferring the same to the Licensor in accordance with the provisions of this Agreement.
- (xxxii) **"Licensor's Assets"** means the assets set out in Appendix 3, belonging to the Licensor.
- (xxxiii) **"License Period"** means the period of the License specified in Article 2.2 of this Agreement.
- (xxxiv) **"Loan Agreement"** means the agreement to be executed on or around the Date of Award of License whereby the terms of debt support from GoK to the Licensee shall be recorded.
- (xxxv) **"Material Adverse Effect"** means a material adverse effect on (a) the ability of the Licensee to observe and perform in a timely manner its obligations under this Agreement or any Transaction Document (b) the legality, validity, binding nature or enforceability of this Agreement or any other Transaction Document.
- (xxxvi) **"Milestone Dates"** means the dates for completion of specified Project activities as contained in the Project Schedule.
- (xxxvii) **"Month"** means the calendar month as per the Gregorian calendar.
- (xxxviii) **"Operations Phase"** means the period from the Date of Commercial Operation to the expiry/termination of the License Period.
- (xxxix) **"Operations Phase Guarantee"** means the Operations Phase Guarantee set out in Clause 3.8(a)(xvii) of this Agreement.
- (xl) **"Party"** means either the Licensor or the Licensee as the context may require or admit and **"Parties"** means both Licensor and Licensee.

- (xLi) **“Person”** means any individual, company, corporation, partnership, joint venture, trust, unincorporated organisation, government or governmental authority or agency or any other legal entity.
- (xLii) **“Performance Guarantee”** shall mean the bank guarantee dated \_\_\_\_\_ for a sum of Rs. 500 Million procured by the Consortium from \_\_\_\_\_ (name of the Bank), guaranteeing the obligations of the Licensee to enter into this Agreement and to perform its obligations from the Date of Award of License and until the end of the Construction Phase.
- (xLiii) **“Phase I”** means Phase I-A and Phase I-B collectively;
- (xLiv) **“Phase I-A”** means the period commencing from the date of issue of the Completion Certificate and extending until the attainment of a rated container handling capacity of 1.8 million TEUs per annum, as certified by the Independent Engineer.
- (xLv) **“Phase I-B”** means the period commencing from the end of Phase I-A and attainment of actual throughput of 1.8 million TEUs in any block of 12 consecutive months extending until the attainment of a rated annual container handling capacity of 3 (three) million TEUs per annum.
- (xLvi) **“Phase II”** means the period commencing from the end of Phase I-B and the attainment of actual throughput of 3.0 million TEUs in any block of 12 consecutive months extending until the attainment of a rated annual container handling capacity of 4 (four) million TEUs per annum, or such other level as may be agreed by the Parties by mutual consent.
- (xLvii) **“Phase III”** means the period commencing from the end of Phase II and of actual throughput of 4.0 million TEUs in any block of 12 consecutive months until the attainment annual rated container handling capacity of 5.3 million TEUs per annum, or such other level as may be agreed by the Parties by mutual consent, and until the end of the remaining tenure of the License Period.
- (xLviii) **“Port Performance Parameters”** means the performance parameters set out in Appendix 5.
- (xLix) **“Project”** means the development, designing, engineering, financing, constructing, equipping, insuring, completing, commissioning, operating and maintaining an international deepwater seaport and container transshipment terminal at Vizhinjam in Thiruvananthapuram District, Kerala, India with focus on transshipment operations by the Licensee on the terms and conditions set out in this Agreement.

- (L) **“Project Contracts”** means collectively this Agreement and any other material contract (other than the Financing Documents) entered into or may hereafter be entered into by the Licensee in connection with the Project and Project Facilities and Services.
- (Li) **“Project Facilities and Services”** means the facilities and services as set out in Appendix 6 hereto to be provided by the Licensee during the License Period in accordance with this Agreement.
- (Lii) **“Project Schedule”** means the Appendix 7 hereto.
- (Liii) **“Promoters”** means collectively \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_.
- (Liv) **“Request for Proposal” or “RFP”** means the Request for Proposal dated [ ] issued by the Licensor inviting proposals for the Project, and includes any addendum / clarifications issued in respect thereof by the Licensor.
- (Lv) **“Shareholders Agreement”** means the Shareholders Agreement proposed to be entered into by the Licensor/ Sponsor and ----- / the members of the Consortium, for implementing the Project through the Licensee, and for matters connected therewith.
- (Lvi) **“Sponsor”** means Vizhinjam International Seaport Ltd., which has been designated as the Nodal Agency by the GoK/Licensor for implementation of the Project.
- (Lvii) **“The Port”** means the Vizhinjam Port as notified by the Licensor vide Notification No. 6270/B1/76/DD dated 2<sup>nd</sup> July, 1977 under Section 4 of the Indian Ports Act, 1908 and as amended by Notification No. 18/2000/F&PD dated 20<sup>th</sup> September, 2000 and as further amended by Notification No. 4/F&PD dated 22<sup>nd</sup> January, 2003.
- (Lviii) **“Transfer Date”** means the date immediately following the date of expiry or termination as the case may be, of the License Period in accordance with the terms of this Agreement.
- (Lix) **“Transaction Documents”** means collectively the Project Contracts and the Financing Documents.
- (Lx) **“Year”** means the period of twelve months commencing from the Date of Award of License and every twelve months thereafter, during the term of this Agreement.

## 1.2 Other References

In this Agreement:

“CISF” means Central Industrial Security Force.

“m” means Meter, the unit of length.

“sq m” means Square Meter, the unit of area.

“km” means Kilometer, the unit of length.

“kWh” means Kilowatt-hour, the unit of electrical energy.

“MT” means Metric Tonne, the unit of weight.

“KVA” means Kilovolt-Ampere, the unit of power.

“MVA” means Mega Volt Ampere, the unit of power.

“mm” means Millimeter, the unit of length.

“TEU” means twenty-foot equivalent unit.

## 1.3 Interpretations

This Agreement constitutes the entire understanding between the Parties regarding the Project and supersedes all previous written and/or oral representations and/or arrangements regarding the Project. If there is any aspect of the Project not covered by any of the provisions of this Agreement, then and only in that event, reference may be made by the Parties to the bid document issued by the Licensor including addendums, clarifications given in writing in the pre-bid meetings and the submissions of the Licensee and the bid submitted by the Licensee.

In this Agreement unless the context otherwise requires:

- (a) The words importing the singular shall mean the plural and vice-versa.
- (b) “Article” and “Appendix” shall refer, respectively to Articles of and any Appendix to this Agreement. The Appendices to this Agreement shall form part and parcel of this Agreement.
- (c) A reference to any legislation or law or to any provision thereof shall include references to any such law as it may, after the date of this Agreement, from time to time be amended, supplemented or re-enacted.

- (d) The references to the word “include” or “including” shall be construed without limitation.
- (e) The references to any agreement or deed or other instrument shall be construed as a reference to such agreement, deed, or other instrument as the same may from time to time be amended, varied, supplemented or novated.
- (f) The table of contents and any headings in this Agreement are for ease of reference only and shall not affect the interpretation of this Agreement.
- (g) Unless otherwise provided, any interest to be calculated and payable under this Agreement shall accrue on a Monthly basis and from the respective due dates as provided for in this Agreement.
- (h) Any word or expression used in this Agreement shall, unless defined or construed in this Agreement, bear its ordinary English meaning.

## ARTICLE 2

### LICENSE AND LICENSOR'S ASSETS

#### 2.1 License

In consideration of the Licensee giving a Performance Guarantee as set out hereunder and making payment of the upfront project development fee as set out in Article 5.1, the Licensor hereby grants to the Licensee, subject to the provisions of this Agreement, an exclusive license for designing, engineering, financing, constructing, equipping, operating, maintaining, the Project and the Project Facilities and Services in accordance with the terms and conditions set out herein.

#### 2.2 License Period

The License hereby granted commences from the Date of Award of License by the Licensor in favour of the Licensee and extends for a period of 30 years from the Date of Commercial Operation, during which the Licensee is authorised to implement the Project and to provide Project Facilities and Services in accordance with the provisions hereof. In the event of the Licensor deciding to go for a bidding/selection process for the operation of the Project after expiry of the License period of 30 years for another term, the 'First Right of Refusal' shall be given to the Licensee to match the winning bid/preferred proposal for such another term within 60 days from the date of such offer from the Licensor, subject to such terms and conditions as may be laid down at such time by the Licensor.

Provided that: -

- (a) in the event of the License being extended by the Licensor beyond the said period of 30 years in accordance with Applicable Laws, the License Period shall include the period by which the License is so extended, and
- (b) in the event of an early termination/determination of the License/ this Agreement by either Party in accordance with the provisions hereof, the License Period shall mean and be limited to the period commencing from the Date of Award of License and ending with the date of termination/determination of the License/this Agreement.

#### 2.3 Acceptance of the License

The Licensee hereby accepts the License and agrees and undertakes to implement the Project and to provide Project Facilities and Services in accordance with the provisions of this Agreement.

## **2.4 Licensor's Assets**

- a) In consideration of the mutual covenants and promises set out herein and the Licensee agreeing to pay an annual licensee fee of Rs. 1,00,000 the Licensor hereby grants a license to the Licensee for the exclusive right to enter upon, occupy and use the Licensor's Assets, for the purpose of implementing the Project in accordance with this Agreement, for the License Period.
- b) The Licensee shall at its costs, charges and expenses be entitled to make such development, repairs and improvements in the Licensor's Assets as may be necessary or appropriate for implementing the Project and providing Project Facilities and Services provided that no such development, repairs and improvements in the Licensor's Assets shall commence without the Licensee first submitting the necessary Designs and Drawings thereof to the Licensor and obtaining prior written consent or approval of the Licensor therefore in accordance with the provisions of this Agreement.

## **2.5 Use of Licensor's Assets**

The Licensee shall not without the prior written consent or approval of the Licensor use the Licensor's Assets for any purpose other than for the purposes of the Project/the Project Facilities and Services and purposes incidental thereto as permitted under this Agreement or as may otherwise be approved by the Licensor.

## **2.6 Information about Licensor's Assets**

The information about the Licensor's Assets as set out in Appendix 3 is provided by the Licensor in good faith and with due regard to the matters for which such information is required by the Licensee. The Licensor agrees to provide to the Licensee, upon a written request, any further information or details relating to the Licensor's Assets, which the Licensor may now possess or may hereafter come to possess. Subject to the foregoing, the Licensor makes no representation and gives no warranty to the Licensee in respect of the condition of the Licensor's Assets.

## **2.7 Acceptance of the Licensor's Assets**

The Licensee accepts possession of the Licensor's Assets on 'as is where is' basis.

## **2.8 Peaceful Possession**

The Licensor warrants that the Licensee shall, subject to complying with the terms and conditions of this Agreement, remain in peaceful possession and



enjoyment of the Licensor's Assets during the License Period. In the event the Licensee is obstructed by any Person claiming any right, title or interest in or over the Licensor's Assets or any part thereof or in the event of any enforcement action including any attachment, distraint, appointment of receiver or liquidator being initiated by any Person claiming to have charge on the Licensor's Assets, for any reason not attributable to the Licensee, the Licensor shall, if called upon by the Licensee, defend such claims and proceedings and also keep the Licensee indemnified against any consequential loss or damages which the Licensee may suffer, on account of any such right, title, interest or charge.

## ARTICLE 3

### PROJECT: REQUIREMENTS, RIGHTS AND OBLIGATIONS

#### 3.1 Preparation of Designs and Drawings

- (a) The Licensee shall, at its cost, charges and expenses, prepare the Designs and Drawings in accordance with the Preliminary Design Criteria and Technical Specifications as set out in Appendix 8 and applicable laws.
- (b) The Licensee shall cause the preparation of the Designs and Drawings as set out in Appendix 9 through an established and professionally qualified consultant, and seek approval of such Designs and Drawings by the Licensor.
- (c) The Consortium has prior to the Date of Award of License carried out a due diligence in relation to the various aspects of the Project, including but not limited to those set out in Appendix 20, and has prepared its bid accordingly. However, in the event of the Licensee having to vary and alter the Designs and Drawings owing to any of such parameters set out in Appendix 19 being found to be unsustainable, with such finding being endorsed by the Independent Engineer, the Licensee shall have a right to modify the Designs and Drawings, hereinafter called the "Modified Design and Drawings".
  - (d) Consequent to any such Modified Designs and Drawings and the same resulting in an adverse variation, to the civil engineering part of the project cost set out in the bid submitted by the Consortium ("**additional project cost**"), with such finding being endorsed by the Independent Engineer, notwithstanding anything contained in this Agreement or in the Loan Agreement, the additional project cost shall be shared between the Licensor and the Consortium in the ratio of 75:25 respectively. It is clarified that the 25% of the additional project cost shall be to the account of the Consortium.

Notwithstanding anything contained herein, the liability of the Licensor in relation to the additional project cost shall be subject to a ceiling of Rs. 675 million. The Licensor shall make its contribution to the additional project cost pro rata to the draw down of senior debt of the Licensee.

#### 3.2 Review and Approval of the Designs and Drawings

- a) The Licensee shall submit the Designs and Drawings along with specifications and calculations for the approval of the Independent Engineer.

- b) The Independent Engineer shall review the Designs and Drawings and specifications and calculations submitted by the Licensee and subject to the provisions of 3.2.(c) herein below, communicate its approval within thirty (30) days from the date of the receipt of such Designs and Drawings. The Independent Engineer shall in consultation with the Parties prescribe a schedule for submission, clarifications and approval of detailed Designs and Drawings for specific components of the Project.
- c) In the event that the Independent Engineer has any objection to the Designs and Drawings and specifications and calculations or any part thereof, it shall promptly and without any undue delay notify the Licensee of its objections, seek clarifications or suggest changes or modifications or corrections thereto. Thereupon, the Licensee shall provide necessary clarification to the Independent Engineer and/ or re-submit the Designs and Drawings and/or specifications and calculations or part thereof, as the case may be within fifteen (15) days from the date of the receipt of objections/observations/suggestions from the Independent Engineer, after incorporating the changes, modifications or corrections suggested by the Independent Engineer.
- d) If the Independent Engineer does not object to the Designs and Drawings and specifications and calculations submitted to it by the Licensee within thirty (30) Days of submission, the Independent Engineer shall be deemed to have approved such Designs and Drawings and the Licensee shall be entitled to proceed with the Project accordingly.
- e) The Licensee shall not be entitled to any extension of time for completing construction or any other relief on account of delay caused due to providing any clarification or in resubmitting the Designs and Drawings. Provided however the Licensor may suitably extend the Construction Period or provide other relief to compensate for any such delay not attributable to the Licensee and which has a Material Adverse Effect.
- f) The Licensee shall not change any Designs and Drawings, specifications and calculations approved or deemed to be approved by the Licensor/Independent Engineer under this Agreement, without the prior written consent of the Licensor. Provided that the Licensee may, for more efficient functioning of the Project Facilities and Services propose to the Licensor changes to the approved Designs and Drawings and specifications of any equipment consistent with all design standards applicable to the Project and the Applicable Laws.
- g) Notwithstanding the express or deemed approval by the Licensor/Independent Engineer, the Licensee shall be solely responsible for any defect and/or deficiency in the Designs and Drawings relating to the

Project or any part thereof and accordingly the Licensee shall at all times remain responsible for its obligations under this Agreement.

- h) Any review conducted by the Licensor/Independent Engineer is solely for the Licensor's own information and that by conducting such review, the Licensor does not accept any responsibility for the quality or workmanship of any engineering or soundness of the work relating to the Project done by the Licensee or any part thereof.
- i) The Licensee shall in no way represent to any Person that, as a result of any review by the Licensor/ Independent Engineer, the Licensor has accepted responsibility for the engineering or soundness of any work relating to the Project/ the Project Facilities and Services or part thereof carried out by the Licensee and the Licensee shall, subject to the provisions of this Agreement, be solely responsible for the technical feasibility, operational capability and reliability of the Project/ the Project Facilities and Services or any part thereof.

### **3.3 Independent Engineer**

The Parties shall agree on the identity of the Independent Engineer in accordance with provisions of Appendix 10. The role of the Independent Engineer shall be to review and approve the Designs and Drawings, conduct on behalf of the Licensor periodical and final verification of the progress in construction and for issuing certificates upon completion of construction of a rated container handling capacity of 1,300,000 TEUs per annum in accordance with the Port Performance Parameters, as certified by the Independent Engineer, and the completion of Project Facilities and Services set out in Appendix 6 (Completion Certificate) as envisaged under this Agreement. The scope of work of the Independent Engineer shall be as set out in Appendix 10. The Independent Engineer shall also be required to review the container handling capacity in order to ascertain if the Licensee has attained the prescribed levels of rated container handling capacity at the Port. The procedure for appointment, tenure and the scope of work of the Independent Engineer shall be as set out in Appendix 10. The costs and expenses of the Independent Engineer shall be entirely borne and paid by the Licensee.

### **3.4 Approved Detailed Project Report (DPR)**

#### **(a) Preparation of DPR**

The Licensee agrees and undertakes at its cost, charges and expenses to prepare the DPR of the Project within 6 (six) Months from the Date of Award of Licence. The DPR shall contain a master plan for the Port, traffic projections, business model, conceptual design and layout, detailed cost estimates, year-wise capital expenditure schedule, land requirement and utilisation plan, list of all assets, sources of finance, financing mix,

management structure, personnel required, environment management plan, environmental impact mitigation plans, maintenance schedule and plan, equipment replacement plan and any other details specified by the Licensor or the Independent Engineer and/or as required under this Agreement. The Licensee shall ensure preparation of DPR through established and professionally qualified personnel, either in-house, if available, or through outside agencies keeping in view the various parameters and standards as set out in the Request for Proposal.

**(b) Review and approval of DPR**

The Licensee shall submit the DPR in duplicate for approval to the Independent Engineer and also submit six copies thereof to the Licensor. The Independent Engineer will inter-alia taking into account the comments and views of the Licensor and Good Industry Practice, review the DPR submitted by the Licensee, and communicate its approval to Licensee within thirty (30) Days from the date of the receipt of such DPR and submit a copy to the Licensor.

In the event that the Independent Engineer has any objection to the DPR, it shall promptly and without any undue delay notify the Licensee its objections, seek clarifications or suggest changes or modifications or corrections thereto. Thereupon, the Licensee shall provide necessary clarification to the Independent Engineer and the Licensor and/ or re-submit the DPR as the case may be, after incorporating the changes, modifications or corrections suggested.

If the Independent Engineer does not object to the DPR submitted to it by the Licensee within thirty (30) Days of submission, the Independent Engineer shall be deemed to have approved such DPR and the Licensee shall be entitled to proceed with the Project accordingly.

The Licensee shall not be entitled to any extension of time for completing construction or any other relief on account of delay caused due to providing any clarification or in resubmitting the DPR.

The Licensee shall not change any DPR approved or deemed to be approved by the Independent Engineer under this Agreement.

Notwithstanding the express or deemed approval by the Independent Engineer and the Licensor, the Licensee shall be solely responsible for any defect and/or deficiency in the DPR relating to the Project or any part thereof and accordingly the Licensee shall at all times remain responsible for its obligations under this Agreement.

Any review of the DPR conducted by the Licensor/Independent Engineer is solely for the Licensor's satisfaction and by conducting such review, the

Licensor/Independent Engineer does not accept any responsibility for the same.

The Licensee shall in no way represent to any Person that, as a result of any review by the Independent Engineer, the Licensor has accepted responsibility for the commercial aspects or the engineering or soundness of any work relating to the Project or part thereof carried out by the Licensee and the Licensee shall, subject to the provisions of this Agreement, be solely responsible for the commercial and technical feasibilities, operational capability, efficiency, safety and reliability of the Project or any part thereof and agrees to indemnify the Licensor as provided for in Clause 7.1(e).

**(c) Approval of material contracts**

The Licensee shall not enter into any material contract including without limitation, any procurement and construction contract, or agreement with any affiliated party for the provision of any of the Project Facilities and Services, unless the principal terms including consideration is reviewed, assessed and approved by the Independent Engineer, prior to the execution of any such contract.

**3.5 Construction Period**

The Licensee shall promptly commence and complete the works, including installation of equipment in accordance with the Project Schedule and obtain the Completion Certificate not later than 50 Months from the Date of Award of the License ("Construction Period"). Subject to any of the provisions of this Agreement providing for extension of time for performance or excuse from performance, as the case may be, of any of the obligations of the Licensee under this Agreement, the Licensee shall pay to the Licensor liquidated damages at the rate of Rs. 3.5 million per week of delay or part thereof from the 56<sup>th</sup> Month from the Date of Award of the License. Provided however such liquidated damages shall not exceed Rs. 350 million.

In the event the Licensee fails to complete the works, including installation of equipment in accordance with the Project Schedule and obtain Completion Certificate within a period of 60 months from the Date of Award of the License, the Licensor shall be entitled to invoke the Performance Guarantee and / or terminate this Agreement, as it may deem fit.

Notwithstanding the foregoing, in the event of any delay in the issuance of the coastal regulatory zone approval/environmental clearance from the Ministry of Environment and Forests, Government of India beyond 18 months from the Date of Award of the License, the Licensor shall, exercising reasonable and commercial discretion, extend the Construction Period by the period of such

delay. Provided however, in the event that the Licensee fails to obtain the Completion Certificate solely due to failure in obtaining the approval /environmental clearance from the Ministry of Environment and Forests, Government of India for reasons beyond the control of the Licensee, on or before 36 months from the Date of Award of the License, the Licensee or the Licensor may terminate this Agreement and the Performance Guarantee shall be returned to the Licensee.

### **3.6 Environmental Clearance**

- (a) The Licensor confirms that it has secured the consent to establish for the Project from the Kerala State Pollution Control Board vide letter dated October 15, 2004 (Ref. File No. PCB/TVM/CE/253; Consent No. PCB/CE/1802/2004, valid upto October 14, 2006).
- (b) The Licensee shall be responsible for filing, obtaining and maintaining the coastal regulation zone / environmental clearance from the Ministry of Environment and Forests, Government of India, and all other environmental approvals, consents and Applicable Permits. Subject to applicable law, the Licensor shall provide all necessary support and assistance to enable the Licensee to secure such approval from the Ministry of Environment and Forests, Government of India.
- (c) The Licensee shall file the necessary applications with the Ministry of Environment and Forests, Government of India for obtaining the coastal regulation zone / environmental clearance within a period of 12 months from the Date of Award of License. In the event the Licensee fails to file the necessary applications for obtaining the coastal regulation zone / environmental clearance within the aforesaid period of 12 months, the project development fee set out in Clause 5.1 of this Agreement shall stand forfeited and this Agreement may stand terminated.
- (d) The Licensee shall ensure that all the observations/comments raised by the Government of India or any such agency authorized by Government of India on environmental/ coastal regulation zone matters shall be duly addressed and clarified forthwith.
- (e) Notwithstanding anything contained in this Agreement but subject to Clause 3.6(c), in the event of such approval from the Ministry of Environment and Forests not being available within a period of 36 months from the date of Award of License or the rejection of such approval, whichever is earlier, the project development fee set out in Clause 5.1 shall stand refunded to the Licensee, without any interest or any other charge of cost. Upon such refund, this Agreement shall stand terminated and each Party shall be discharged in respect of obligations

contained herein, unless any waiver has been granted by either Party to the other Party.

### **3.7 Construction Phase**

#### **a) Obligations of the Licensee**

In addition to any of its other obligations under this Agreement, during the Construction Phase, the Licensee shall:

- (i) in accordance with the Project Schedule, commence and complete the works required to satisfy the overall scope of Project Facilities and Services to be provided by the Licensee as listed in Appendix 6;
- (ii) entrust responsibility for project management and construction to professionally competent Persons;
- (iii) subject to the issuance of the coastal regulatory zone approval/ environmental clearance from the Ministry of Environment and Forests, Government of India within 10 months from the Date of Award of the License without any delay in accordance with Clause 3.5, the Licensee shall achieve Financial Closure no later than twelve (12) months from the Date of Award of License, or in the event of a delay in issuance of the above referred clearance(s), within 2 months of receipt of such clearance(s) and make available in a timely manner all necessary financial and other resources required for construction and installation of the Project Facilities and Services. The Licensee shall ensure that the Lenders and the terms of the Financial Assistance shall be in accordance with Good Industry Practice;
- (iv) comply with Applicable Laws and give priority to safety in its construction and planning activities in order to protect life, health, property and environment;
- (v) provide to the representative(s) of the Licensor and Independent Engineer, at reasonable times and upon prior Intimation, access to the Project site to review progress in construction and to ascertain compliance with any of the requirements of this Agreement. Provided that failure on the part of the Licensor to inspect any works shall not, in relation to such works, (i) amount to any consent or approval by the Licensor nor shall the same be deemed to be waiver of any of the rights of the Licensor under this Agreement; and (ii) release or discharge the Licensee from its obligations or liabilities under this Agreement in respect of such work.
- (vi) promptly carry out at its cost such further works as may be necessary to remove any defects or deficiencies observed by the Independent



Engineer and ensure completion of construction of the Project / the Project Facilities and Services in all respects in accordance with the provisions of this Agreement.

- (vii) the Consortium shall keep the Performance Guarantee valid till the end of the Construction Phase.

In the event the Performance Guarantee is not invoked in the manner set out in Article 3.4, on the Date of Commencement of Commercial Operation and subject to there being no Licensee Event of Default subsisting, the Performance Guarantee shall be returned by the Licensor to the Consortium, duly cancelled.

- (viii) obtain the Landing and Shipping Declaration from the Customs Department.

**b) Obligations of the Licensor**

In addition to any of its other obligations under this Agreement, during the Construction Phase, the Licensor shall:

- (i) grant or as the case may be assist and/or extend all necessary co-operation to the Licensee in obtaining all Applicable Permits required by the Licensee;
- (ii) upon written request from the Licensee, assist and/or extend all necessary co-operation to the Licensee in obtaining immigration clearances, employment permits and residential premises for any foreign personnel engaged or employed by the Licensee in connection with the implementation of the Project;
- (iii) assist and/or extend all necessary co-operation to the Licensee to import into India all items of equipment and materials required for the Project;
- (iv) make available all records of sub-soil investigations carried out on its behalf in the Licensor's Assets, if requested by the Licensee;
- (v) grant approvals/ consents sought by the Licensee as required under this Agreement, with reasonable promptness, provided the Licensee is in compliance with the requirements of the same.
- (vi) upon receipt of Completion Certificate issued by the Independent Engineer assist in obtaining the Landing and Shipping Declaration from the Collector of Customs, publish requisite notifications in the Official Gazette and declare the Project Facilities and Services as ready for operation.

- (vii) appoint the Licensee as the conservator of the Port as per the Indian Ports Act, 1908.
- (viii) commence and complete the external infrastructure facilities and services provided for in Appendix 17.

It is clarified that the Licensors obligations set out in sub-clauses (i), (ii) and (iii) above, shall be subject to the Licensee providing to the Licensor all necessary relevant details and other information as may be required by the Licensor.

### **3.8 Operations & Maintenance Phase**

#### **(a) Obligations of the Licensee**

In addition to any of its other obligations under this Agreement, the Licensee shall during the Operations Phase manage, operate, maintain, expand, develop and repair the Project Facilities and Services, entirely at its cost, charges, expenses and risk in accordance with the provisions of this Agreement. The Licensee's obligations under this Article 3.8 shall include but shall not be limited to the following:

#### **(i) Berth and Terminal Operations:**

The Licensee shall:

- (a) promptly commence operations upon the Project Facilities and Services being declared by the Licensor as ready for operations;
- (b) make efforts to optimise cargo handled so as to achieve best utilisation of the Project Facilities and Services as per the Port Performance Parameters set out in Appendix 5;
- (c) adhere to the Operational Strategies and Work Plan as set out in Appendix 11 as may be beneficial to the project. Any significant change to Operational Strategies and Work Plan shall only be with prior written intimation to the Licensor;
- (d) employ qualified Persons to efficiently operate and manage the Project Facilities and Services;
- (e) make available all necessary financial, technical, technological, managerial and other resources for operation, maintenance, repair and replacement of the Project Facilities and Services in a timely manner;

- (f) take charge of and store the goods and/or containers discharged from vessels and give necessary receipts for the same;
- (g) give delivery of the goods and/or containers and subject to the provisions of this Agreement receive or recover from consignees or owners or vessel agents charges due and payable by them;
- (h) conform to the Equipment Procurement Plan forecast as listed in Appendix 12 ;
- (i) broadly abide by the Year-wise Investment Plan as set forth in Appendix 13;
- (j) subject to the provisions of Article 3.8 (a) manage and operate the Project Facilities and Services on a common-user basis, open to any and all shipping lines, importers, exporters, shippers, consignees and receivers, and refrain from indulging in any unfair or discriminatory practice against any user or potential user thereof;
- (k) ensure maintenance of proper and accurate record/data/accounts relating to operations of the Project Facilities and Services and the revenue earned therefrom;
- (l) comply with the Applicable Laws including those relating but not limited to dock side safety, health, environment, hazardous and dangerous cargo and labour;

**(ii) Repairs and Maintenance**

The Licensee shall;

- (a) abide by the Operations and Maintenance Plan as outlined in Appendix 14, the Environment Management Plan set out in Appendix 4 and the Waste Management and Port Safety Plan set out in Appendix 16;
- (b) maintain the Project Facilities and Services in accordance with the Good Industry Practice with the objective of providing adequate service standards and ensuring that the Project Facilities and Services to be transferred to the Licensor upon expiry of the License Period are in good and working condition, normal wear and tear excepted;
- (c) meet all costs of operation, maintenance (including preventive maintenance) and repairs of the Project Facilities and Services or any part thereof.

**(iii) Replacement of Equipment**

The Licensee shall at its cost plan for replacement of the equipment well ahead of the due dates therefor and replace the equipment as per the equipment replacement plan set out in the approved DPR.

**(iv) Repairs, Replacement or Restoration**

The Licensee shall at its own costs, promptly and diligently repair, replace or restore any of the Project Facilities and Services or part thereof which may be lost, damaged, or destroyed.

**(v) Removal / Replacement of Assets**

Except as provided/authorised under this Agreement the Licensee shall not, without the prior written approval of the Licensor, remove or replace any assets comprised in the Project Facilities and Services.

**(vi) Payments to the Licensor**

The Licensee shall make/ensure payments to the Licensor as per Article 5.

**(vii) Access for Inspection**

The Licensee shall upon prior intimation by the Licensor provide the authorised representatives of the Licensor access to the Licensor's Assets/the Project Facilities and Services for inspection and review of operations and also to ascertain compliance with any of the requirements under this Agreement.

**(viii) Reports**

The Licensee shall provide to the Licensor monthly/quarterly reports on cargo traffic, unit gross output/ discharge rates at berth, daily output rated per vessel and effective working time to waiting within fifteen Days following the end of each Month/quarter, financial reports, performance reports and any other information relating to operations which the Licensor may reasonably require.

**(ix) Security Arrangements**

The Licensee shall make its own arrangements for security at the Port provided the Licensee shall abide by the security regulations/procedures prescribed by the Licensor from time to time. At the written request of the Licensee, the Licensor shall endeavour to secure

the assistance of the Central Industrial Security Force (CISF) to provide security at the Port, at the cost of the Licensee.

**(x) Employment of Personnel**

The Licensee shall employ qualified and skilled personnel required to operate the Project Facilities and Services. The terms of employment may be as deemed fit by the Licensee and the Licensee shall bear all costs in this regard. All such employees shall always remain the Licensee's responsibility.

The Licensee agrees that immediately on receipt of notice for Early Determination or a Termination Notice the Licensee shall train the Licensor's personnel in the manner set out in Appendix 18, in order to facilitate the smooth take-over of the Project Facilities and Services by the Licensor. The Licensor further agrees that 18 months prior to the expiry of the License Period, the Licensee shall train the Licensor's personnel in the manner set out in Appendix 18, in order to facilitate the smooth take-over of the Project Facilities and Services by the Licensor.

**(xi) Marine and Port Services**

The Licensee shall provide/ cause to be provided, at no cost to the Licensor, the following services:

- (a) scheduling the entry, berthing and sailing of the vessels, pilotage and towage on a non-discriminatory basis subject to priority berthing norms, if any, under Applicable Laws and the sailing schedule depending on individual ship characteristics and tidal conditions;
- (b) maintenance of the following entrance channel depth (in meters):;

	Phase I	Phase II	Phase III
Entrance Channel (Inner)	16.7	17.3	19.6
Entrance Channel (Outer)	17.4	18.0	20.4

- (c) waterside safety and safety of navigation;
- (d) maintenance of the following dredged depth alongside the berth (in meters) :

	Phase I	Phase II	Phase III
Alongside Berth (Main)	16.0	16.5	18.7
Alongside Berth (Feeder)	10.0	11.6	11.6

- (e) carry out capital and/or maintenance dredging operations, if any that may be required to ensure the draft to be provided or maintained at the levels agreed under this Agreement, with minimum inconvenience to or dislocation of the Project Facilities and Services;
- (f) provision and maintenance of all general port infrastructure other than those covered under the License, necessary for management, operation and maintenance of the Project Facilities and Services;

(xii) **Operating Procedure**

The Licensee shall prepare and notify the procedure for operation and provision of services at the Port (the “**Operating Procedure**”) no later than 60 days prior to Date of Commercial Operation. Any revision in the Operating Procedure shall be with the prior written approval of the Licensor.

(xiii) **Priority Services**

The Licensee acknowledges that the Licensor, GoI or other public or statutory authorities having jurisdiction over the Port, may direct the Licensee to provide priority services and the Licensee shall comply with all such requests.

The Licensee shall be entitled to levy and collect the notified tariff from the entity availing of such priority services.

The Licensee agrees that the Licensor shall not be liable for any direct or indirect loss, consequential damages or loss of profits to the Licensee in the event that priority services are mandated. The Licensee shall keep the Licensor indemnified from any claims made by the users of the Port or other parties as a result of such priority directives.

(xiv) **Approval of Contracted Assets**

The Licensee may, from time to time, request the Licensor to approve additional assets to be constructed or installed at the Port beyond those contemplated in the Designs and Drawings. Such approved assets if approved in writing by the Licensor under this Article shall be treated as part of the Project Facilities and Services.

**(xv) Port Performance Parameters**

The Licensee shall ensure that the Port achieves the performance parameters set out in Appendix 5 at all times, unless otherwise excused by the Licensor in writing.

**(xvi) Development Obligations**

**Phase I-A:**

- (a) No later than 48 months from the commencement of Phase I-A, the Licensee shall ensure that the container handling capacity of the Project is enhanced to 1.80 million TEUs per annum, as certified by the Independent Engineer. The Licensee shall commence construction for such enhancement of container handling capacity no later than the expiry of 36 months from the commencement of Phase I-A. In the event of such container handling capacity not being attained within a period of 54 months from the commencement of Phase I-A, the Licensor shall have the right but not the obligation to terminate this Agreement at any time thereafter, and / or invoke the Operations Phase Guarantee and shall be entitled to liquidated damages at the rate of Rs. 1 (One) million for every week of delay.

**Phase I-B:**

- (b) No later than 24 months from the attainment of a throughput of 1.80 million TEUs in any block of 12 consecutive months, the Licensee shall ensure that the container handling capacity of the Project is enhanced to 3.00 million TEUs per annum, as certified by the Independent Engineer. The Licensee shall commence construction for such enhancement of container handling capacity no later than the expiry of 6 months from the attainment of a throughput of 1.80 million TEUs in any block of 12 consecutive months. In the event of such container handling capacity not being attained within a period of 30 months from the attainment of a throughput of 1.80 million TEUs in any block of 12 consecutive months, the Licensor shall have the right but not the obligation to terminate this Agreement at any time thereafter, and / or invoke the Operations Phase Guarantee and shall be entitled to liquidated damages at the rate of Rupees 1.00 (One) million for every week of delay.

**Phase II:**

- (c) No later than 36 months from the attainment of a throughput of 3.00 million TEUs in a block of 12 consecutive months the

Licensee shall ensure that the rated container handling capacity of the Project is enhanced to 4.00 million TEUs per annum, or such other level as may be agreed by the Parties by mutual consent. Such enhanced rated capacity on attainment is to be certified by the Independent Engineer. In the event of such container handling capacity not being attained within such period of 36 months, and such default continuing until the expiry of 42 months from the attainment of a throughput of 3.00 million TEUs in a block of 12 consecutive months, the Licensor shall have the right but not the obligation to terminate this Agreement at any time thereafter, and / or invoke the Operations Phase Guarantee, without prejudice to its other rights available in law or in contract.

**Phase III:**

- (d) No later than 36 months from the attainment of a throughput of 4.00 million TEUs or such other mutually agreed throughput capacity as per Clause 3.8 (a) (xvi) (c), in a block of 12 consecutive months the Licensee shall ensure that the rated container handling capacity of the Project is enhanced to 5.30 million TEUs per annum or such other level as may be agreed by the Parties by mutual consent. Such enhanced rated capacity on attainment is to be certified by the Independent Engineer. In the event of such container handling capacity not being attained within such period of 36 months, and such default continuing until the expiry of 42 months from the attainment of a throughput of 4.00 million TEUs in a block of 12 consecutive months, the Licensor shall have the right but not the obligation to terminate this Agreement at any time thereafter, and / or invoke the Operations Phase Guarantee, without prejudice to its other rights available in law or in contract.

**(xvii) Operations Phase Guarantee**

The Licensee shall obtain and furnish to the Licensor a valid bank guarantee of Rs. 600 million (the "Operations Phase Guarantee") in favour of the Licensor enforceable and encashable at Thiruvananthapuram as provided in the format in Appendix 15 from a scheduled bank acceptable to the Licensor no later than 6 months prior to the expiry of Construction Phase and submit the same to the Licensor. The Operations Phase Guarantee shall be valid throughout the Operations Phase. Provided however, the amount of the Operations Phase Guarantee shall be enhanced every 2 years from the date of issue of the Operations Phase Guarantee by such percentage as is equivalent to the increase in the quarterly average



Industrial Wholesale Price Index for the previous 2 years as computed on an annual compounding basis.

In the event of a breach of this Agreement by the Licensee during the Operations Phase, including without limitation, any breach of the Port Performance Parameters, notwithstanding any other right or remedy of the Licensor under this Agreement or in law, the Licensor shall be entitled to be compensated for such breach through whole or partial encashment of the Operations Phase Guarantee. In the event of any encashment of the Operations Phase Guarantee, the Licensee shall be obliged to replenish the Operations Phase Guarantee to the agreed level of Rs. 600 million or such higher amount as computed in the manner set out above.

The decision of the Licensor as to any breach/delay having been committed, liability accrued, or loss or damage caused or suffered shall be conclusive, absolute and binding on the Licensee. The Licensee specifically confirms and agrees that no proof of any amount of liability accrued or loss or damages caused or suffered by the Licensor under this Agreement is required to be provided in connection with any demand made by the Licensor to recover such compensation through encashment of the Operations Phase Guarantee under this Agreement and that no document or any action shall be required other than the Licensor's written demand as aforesaid.

## **b) Rights of Licensee**

### **(i) Preferential and Priority Berthing**

The Licensee may offer preferential or priority berthing (i.e. offering of berthing facilities on special terms as per the Licensee's discretion) to any one or more shipping lines or vessel owners/operators to optimise the use of the Project Facilities and Services in accordance with Applicable Laws.

### **(ii) Unclaimed cargo**

The Licensee may at its cost:

- a) after obtaining prior written approval of the Commissioner of Customs, destroy or dispose of by way of public auction and/or tender, any unclaimed cargo, the charge of which has been taken by Licensee under or pursuant to this Agreement, and
- b) institute proceedings for recovery of unrealised charges, if any, in its name and/or defend any claim made in respect of such cargo by

consignee/owners. The Licensor agrees to provide all reasonable assistance necessary in this regard to the Licensee.

**c) Obligations of the Licensor**

In addition to any of its other obligations in this Agreement, the Licensor shall subject to eligibility, and compliance with Applicable Laws, arrange for and provide approvals/ consents sought by the Licensee as required under this Agreement, with reasonable promptness.

## ARTICLE 4

### TARIFF

#### 4.1 Tariff Fixation

- (a) The Licensee shall be entitled to fix and collect fees for all services rendered or performed at the Port and authorized under this Agreement in accordance with Applicable Laws.
- (b) The Licensee may to the extent permitted by law, structure the tariff at its discretion and the currency of denomination of tariff.

#### 4.2 Notification

- (a) The Licensee agrees and acknowledges that the tariff shall, subject to the provisions of this Clause, be non-discriminatory.
- (b) The Licensee may customize separate service and tariff packages for specific users from time to time. Such customization may include long term contracts with large and/or dedicated users.
- (c) In the event that the tariff is required to be notified in accordance with Applicable Laws, the Licensor shall take all steps within their power to notify the same in accordance with the Applicable Laws in that behalf.

## ARTICLE 5

### PAYMENTS TO THE LICENSOR

#### 5.1 Payments for the License

This License is conditional on the Consortium having paid to the Licensor or to any other organisation as authorised by the Licensor an upfront project development fee of Rs. 50 Million, prior to the execution of this Agreement. A further project development fee of Rs. 200 million shall be payable by the Consortium to the Licensor or to any other organisation as authorised by the Licensor within a period of 4 (four) weeks from the issuance of environmental/ coastal regulation zone clearance by the Ministry of Environment and Forests, Government of India. In the event of a default by the Consortium towards payment of the above-mentioned further project development fee, the Licensor reserves the right to recover the same from the Performance Guarantee. All the above amounts of project development fee shall be net of Service Tax, Cess or such other applicable taxes, levies as may be levied at the appropriate time.

#### 5.2 Other Payments

##### (a) Power and Water charges

The Licensee shall pay all bills raised by the Licensor or its agency for power and water made available to it by the Licensor or such agency, within 10 Days of receipt of such bills. The following provisions shall apply in this regard:

##### (i) Power :

- (a) The charges for the power made available shall be as per the applicable and prevalent scheduled rates of \_\_\_\_\_ (*Name of Elec. Board*) \_\_\_\_\_ or as may be revised from time to time.
- (b) The Licensee shall, at its cost, and to the satisfaction of the Licensor, install meters to measure the consumption of power. In the event of disruption of power supply or breakdown in supply of power for any reasons whatsoever other than for reasons of default, neglect or failure attributable to the Licensor or its agency no compensation shall be paid by the Licensor for any loss or damages caused to or suffered by the Licensee as a result thereof.
- (c) The Licensee shall, at its cost, be entitled to make alternate arrangements for power including but not limited to

installation of generators or captive power plants, subject to obtaining Applicable Permits if any therefor.

**(ii) Water:**

- (a) The charges for the water made available shall be as per the rates fixed by the Licensor or its agency, subject to revision from time to time and as applicable.
- (b) The Licensee shall, at its cost and to the satisfaction of the Licensor or its agency, install meters to measure the consumption of water.
- (c) The Licensee shall, at its cost, be entitled to make alternate arrangements for water subject to Licensee obtaining Applicable Permits if any.

**b) Additional Premises/Utilities or Services:**

The Licensee shall also pay rent or other charges for the additional land or other premises or additional utilities or services, made available by the Licensor to the Licensee in accordance with the terms, conditions and covenants mutually agreed between the Licensor and the Licensee.

## ARTICLE 6

### ASSETS: OWNERSHIP AND CERTAIN RIGHTS

#### 6.1 Ownership of Assets

##### (a) Land and Water Area

The ownership of the Licensor's Assets shall always remain vested with the Licensor. The rights of the Licensee in the Licensor's Assets shall only be that of a Licensee of such assets as provided in this Agreement. It is clarified for the avoidance of doubt that title to reclaimed land shall also vest exclusively in the Licensor and the Licensee shall only have a bare license to use the same in accordance with the provisions of this Agreement and other applicable laws for the purposes set out herein.

##### (b) Assets created or provided by the Licensee

The ownership of all infrastructure assets, buildings, structures, berths, wharves, equipment and other immovable and movable assets constructed, installed, located, created or provided by the Licensee in the Licensor's Assets pursuant to this Agreement shall, until transfer to the Licensor in accordance with this Agreement, be with the Licensee.

#### 6.2 Permitted Charge on Assets

(a) The Licensee shall be entitled to mortgage, hypothecate or otherwise charge all its right title and interest in the assets referred to in Article 6.1(b) in favour of Lenders for securing the Financial Assistance provided or agreed to be provided by them under the Financing Documents, without the consent of the Licensor, subject to prior intimation to the Licensor.

(b) The Licensee shall be entitled to mortgage, hypothecate or otherwise charge all its right title and interest in the Licensor's Assets referred to in Article 6.1(a) in favour of Lenders for securing the Financial Assistance, with the prior written consent of the Licensor.

Provided that in the event of termination of this Agreement the said charge shall stand extinguished upon payment of compensation by the Licensor to the Lenders, to the extent the Lenders are entitled to receive the same in accordance with the provisions of this Agreement. However, nothing contained in this proviso shall apply to the Licensee's assets not taken over by the Licensor and the existing charge, if any, on such assets shall, subject to the provisions of the Financing Documents continue to subsist.

Consent to create a charge over the assets as provided for above shall not under any circumstances amount to any guarantee from or recourse to the Licensor. The Licensor shall have no obligation to provide any guarantee on behalf of the Licensee or otherwise for availing any Financial Assistance.

## ARTICLE 7

### GENERAL RIGHTS, DUTIES AND OBLIGATIONS

#### 7.1 Of the Licensee

##### (a) Shareholding

The Licensee shall ensure that till the completion of eight (8) years from the Date of Commencement of Operation or two (2) years after the end of Phase I-B, whichever is later: (i) the Lead Member shall hold at least 26 per cent of the paid-up equity share capital of the Licensee; (ii) the Promoters shall cumulatively hold 51 per cent of the paid-up equity share capital of the Licensee.

Provided, nothing contained in this Article shall preclude or prevent pledge of Promoters' shares in the Licensee in favour of Lenders as security for the Financial Assistance and enforcement thereof in accordance with this Agreement and/or the Financing Documents.

(aa) The Articles of Association (the "Articles") of the Licensee shall be amended within 3 (Three) weeks of the Date of Award of the License to include:

- (i) terms and conditions regarding the composition of shareholding stipulated in this Agreement; and
- (ii) terms and conditions related to changes in the shareholding pattern stipulated in this Agreement;

and the Licensee shall submit the amended Articles to the Licensor within a period of 5 (five) weeks from the Date of Award of the License.

(ab) Any subsequent change in the Articles which alter the provisions required by this sub-clause shall require the prior approval of the Licensor.

##### (b) Applicable Permits

The Licensee shall at all times during the License Period have obtained and shall maintain the Applicable Permits and comply with all Applicable Laws, including without limitation compliance with customs regulations, issuance bonds/ guarantees thereunder.



**(c) Taxes, Duties, etc.**

The Licensee shall during the License Period pay in a timely manner all taxes, duties, levies, cess and charges including but not limited to income tax, value added or sales tax, service tax, excise duty, customs duty and octroi that may be levied, claimed or demanded from time to time by any Government Authority including any increase therein effected from time to time from any Government Authority, in respect of the Project/ the Project Facilities and Services.

**(d) Insurance**

**(i) Construction Phase**

The Licensee shall, at its cost and expense, purchase and maintain during the Construction Phase such insurances as are necessary, including but not limited to the following:

- (a) builders' all risk insurance;
- (b) comprehensive third party liability insurance including injury or death to personnel of the Licensor and others who may enter the Licensor's Assets;
- (c) workmen's compensation insurance;
- (d) marine cum storage cum erection insurance;
- (e) any other comprehensive insurance that may be necessary to protect the Licensee, its employees and its assets (against loss, damage or destruction at replacement value) including all Force Majeure Events that are insurable and not otherwise covered in items (a) to (d).

**(ii) Operations Phase**

The Licensee shall, at its cost and expense, purchase and maintain during the Operations Phase insurance to cover against:

- (a) loss, damage or destruction of the Project Facilities and Services, at replacement value;
- (b) the Licensee's general liability arising out of the License;
- (c) liability to third parties; and

- (d) any other insurance that may be necessary to protect the Licensee and its employees, including all Force Majeure Events that are insurable and not otherwise covered in items (a) to (c).

**(iii) Insurance Companies**

The Licensee shall insure all insurable assets comprised in the Licensor's Assets and/or the Project Facilities and Services through Indian insurance companies and if so permitted by GoI, through foreign insurance companies, to the extent that insurances can be effected with them.

**(iv) Evidence of Insurance Cover**

The Licensee shall, from time to time, provide to the Licensor certified true copies of all insurance policies (or appropriate endorsements, certifications or other satisfactory evidence of insurance) obtained by the Licensee in accordance with this Agreement.

**(v) Application of Insurance Proceeds**

Subject to the provisions of the Financing Documents, all moneys received under insurance policies shall be promptly applied by the Licensee towards repair or renovation or restoration or substitution of the Project Facilities and Services or any part thereof which may have been damaged or destroyed. The Licensee may designate the Lenders as the loss payees under the insurance policies/assign the insurance policies in their favour as security for the Financial Assistance. The Licensee shall carry out such repair or renovation or restoration or substitution to the extent possible in such manner that the Project Facilities and Services or any part thereof, shall, after such repair or renovation or restoration or substitution be as far as possible in the same condition as they were before such damage or destruction, normal wear and tear excepted.

**(vi) Validity of the Insurance Cover**

The Licensee shall pay the premium payable on such insurance policy(s) so as to keep the policy(s) in force and valid throughout the License Period and furnish certified true copies of the same to the Licensor. Each insurance policy shall provide that the same shall not be cancelled or terminated unless 10 business Days' clear notice of cancellation is provided to Licensor in writing. If at any time the Licensee fails to purchase and maintain in full force and effect any and all of the insurances required under this Agreement, the Licensor may at its option purchase and maintain such insurance and all sums incurred by the Licensor therefor shall be reimbursed by the Licensee forthwith on demand, failing which the same shall be recovered by the Licensor by exercising right of set off or otherwise.

**(e) Indemnification**

The Licensee shall indemnify and keep indemnified and otherwise save harmless, the Licensor, its agents and employees, from and against all claims, demands made against and/or loss caused and/or damages suffered and/or cost, charges/expenses incurred to and/or penalty levied and/or any claim due to injury to or death of any person and/or loss or damage caused or suffered to property owned or belonging to the Licensor, its agents and employees or third party as a result of any acts, deeds or thing done or omitted to be done by Licensee or as a result of failure on the part of the Licensee to perform any of its obligations under this Agreement or on the Licensee committing breach of any of the terms and conditions of this Agreement or on the failure of the Licensee to perform any of its statutory duty and/or obligations or as a consequence of any notice, action, suit or proceedings, given, initiated, filed or commenced by consignee or owner of goods or vessel owner/agent or its employees or any third party or Government Authority or as a result of any failure or negligence or default of the Licensee or its Contractor(s), sub-contractor(s), or employees, servants, agents of such Contractor(s) and/or sub-contractor(s) and/or invitees as the case may be, in connection with or arising out of this Agreement and/or arising out of or, in connection with the Licensee's use and occupation of Licensor's Assets and/or construction, operation and maintenance of the Project Facilities and Services.

**(f) Assignability**

Except as otherwise provided in this Agreement, neither Party shall assign its rights, title or interest in this Agreement in favour of any Persons without prior written consent of the other Party. Provided the Licensee may assign its rights, interests and benefits under this Agreement to the Lenders as security for the Financial Assistance. Provided further nothing contained in this Article shall;

- (i) absolve the Licensee from its responsibilities to perform/discharge any of its obligations under and in accordance with the provisions of this Agreement; and
- (ii) shall authorise or be deemed to authorise the Lenders to operate or procure and cause operation of the Project Facilities and Services themselves.

**(g) Foreign Exchange Risk**

The Licensee shall bear any risk on account of fluctuation in foreign exchange rates during the License Period.

**(h) Right to sub-contract**

The Licensee may sub-contract in accordance with the terms and conditions of this Agreement and other applicable laws to any Person possessing the requisite skill, expertise and capability, the designing, engineering, procurement and construction of civil / mechanical / electrical and other engineering structures / equipment, and / or operation and maintenance of the Project Facilities and Services provided the Licensee shall at all times be solely responsible for any defect, deficiency or delay in the construction and erection of the structures/equipment or any part thereof and for the operation and maintenance of the Project/the Project Facilities and Services in accordance with the provisions of this Agreement.

**(i) Sub-License**

Except as otherwise provided in this Agreement, the Licensee shall not sub-license or create any third party interest in the Licensor's Assets and or the Project Facilities and Services without the prior written consent or approval of the Licensor. The Licensor may grant or refuse such consent or approval on such terms and conditions as it deems fit and proper.

**(j) Condition Survey**

The Licensee agrees that at least six months prior to the expiry, by efflux of time, of the License Period it shall, cause to be conducted by the Independent Engineer at its cost, a condition survey and an inventory of the entire Project Facilities and Services. If, as a result of such survey, the Licensor shall observe/notice that the Licensor's Assets and/or the Project Facilities and Services or any part thereof have/has not been operated and maintained in accordance with the requirements therefore under this Agreement (normal wear and tear excepted) the Licensee shall, at its cost and expenses, take all necessary steps to put the same in good working condition well before the Transfer Date. In the event the Licensee fails to comply with the provisions of this Agreement, the Licensor may itself cause the condition survey and inventory of the Licensor's Assets and Project Facilities and Services to be conducted. The Licensor shall be compensated by Licensee for any costs incurred in conducting such survey and preparation of inventory as also in putting the Project Facilities and Services in a good working condition.

**(k) Transaction Documents**

The Licensee shall throughout the term of this Agreement provide to the Licensor a duly executed copy of every Transaction Document to which the Licensee is a party, including any related instruments, deeds, contracts, supplemental agreements and other such documents relating thereto.

**(l) Shareholding**

The Licensee shall ensure that during the License Period the Licensor through the Sponsor shall hold 24 per cent of the paid-up equity share capital of Phase I of the Project of Licensee. The Licensor shall have the right to continue to hold 24 per cent of the paid-up equity of subsequent phases of the Project of Licensee.

**(m) Compliance with other Agreements**

The Licensee shall comply with its obligations set out in the Loan Agreement and the Shareholders Agreement.

**GENERAL RIGHTS, DUTIES AND OBLIGATIONS**

**7.2 Of the Licensor**

**(a) Assistance in obtaining Approvals, Permits and Licenses**

The Licensor shall, at the request of the Licensee, but without guarantees and/or without assuming any responsibility in that behalf, issue recommendatory letters and make best efforts to assist the Licensee in obtaining all the Applicable Permits including renewals thereof provided that nothing contained in this Article shall relieve the Licensee of its obligations under this Agreement to obtain the Applicable Permits and to keep them in force and effect throughout the License Period.

**(b) Tax Benefits**

In cases found appropriate the Licensor may, at the request of the Licensee, issue recommendatory or supporting letters to any Government Authority recommending tax or duty concessions/ benefits to the Licensee with regard to the Project.

**(c) External Infrastructure, Utilities & Services**

The Licensor shall at its cost during the period of the License provide to the Licensee the infrastructure facilities, utilities and services set out in Appendix 17 at rates and on terms no less favourable to the Licensee than those generally available to commercial customers availing substantially equivalent facilities and utilities.

Notwithstanding anything contained in this Agreement; (i) the Licensor's obligation to commence the construction of the infrastructure facilities to be provided at the completion of the Construction Phase in the manner set out in Enclosure A.17.1 in Appendix 17 shall start only upon the Licensee obtaining the environment/CRZ clearance for the Project from the Ministry of Environment and Forest, Government of India and achieving

Financial Closure; and (ii) the Licensor's obligation to commence the construction of the infrastructure facilities to be provided at the completion of Phase I-B/ in the manner set out in Enclosure A.17.2 in Appendix 17 shall commence only upon the Licensee attaining a throughput of 1.80 million TEUs in any block of 12 calendar months and the Licensee commencing construction for the enhancement of the container handling capacity in the manner set out in Clause 3.8(a)(xvi)(b), Subject to the aforesaid, the Licensor shall complete the construction of the infrastructure facilities to be provided at the completion of Phase I-B.

## **GENERAL RIGHTS, DUTIES AND OBLIGATIONS**

### **7.3 Of the Licensor and the Licensee**

#### **(a) Compliance with Laws and Regulations**

The Parties shall perform their respective obligations under this Agreement in accordance with the Applicable Laws.

#### **(b) Rights to Documents**

##### **(i) Licensor Documents**

Documents and computer programs or copies thereof, if any, provided by the Licensor to the Licensee, shall always remain the property of the Licensor. Such documents, computer programs and/or copies shall not be used by the Licensee for the purposes other than for the Project. Such documents, computer programs and/or copies thereof shall, unless otherwise agreed upon by the Licensor, be returned by the Licensee to the Licensor on the Transfer Date.

##### **(ii) Licensee Documents**

Documents and computer programs provided by the Licensee, or which are developed (and owned by the Licensee) for operation and/or maintenance of the Project /the Project Facilities and Services shall be handed over by the Licensee to the Licensor free of cost on the Transfer Date.

##### **(iii) Confidentiality**

All confidential information and documents (whether financial, technical or otherwise) provided by either Party to the other shall not, unless compelled by law or the process of a Government Authority, be disclosed to any Person without the consent of the other Party. This covenant shall survive beyond the License Period.

**(iv) Obligation to Cooperate**

The Parties shall mutually cooperate with each other in order to achieve the objectives of this Agreement.

**(c) Environment Management Plan**

The Parties shall comply with the respective obligations under the Environment Management Plan.

**(d) Additional Facilities**

Notwithstanding anything to the contrary contained herein, the Licensor/GoK will not either by itself or allow, at any time during the pendency of this Agreement, any private developer to construct/develop a similar container transshipment port (that comes under its' jurisdiction) within a limit of 150 kms of the coastline on either side of the proposed port but within the State Boundary of Kerala;

## ARTICLE 8

### CHANGE IN LAW

#### 8.1 Change in Law

“Change in Law” means any of the following events which have a Material Adverse Effect on the implementation of the Project in accordance with the provisions of this Agreement:-

- (a) adoption, promulgation, modification, reinterpretation or repeal after the date of this Agreement by any Government Authority of any statute, rule, regulation, order, treaty, convention, directive, guidelines, policies; or
- (b) the imposition by any Government Authority of any material condition (other than a condition which has been imposed as a consequence of a violation by the Licensee of any Applicable Permit) in connection with the issuance, renewal or modification of any Applicable Permits after the date of this Agreement which renders the performance by the Licensee of any of the terms of this Agreement impossible or unviable.
- (c) any Applicable Permit previously granted, ceasing to remain in full force and effect for reasons other than breach/violation by or the negligence of the Licensee or if granted for a limited period, being renewed on terms different from those previously stipulated.

Provided nothing contained in this Article 8.1 shall be deemed to mean or construe any increase in taxes, duties, cess and the like effected from time to time by any Government Authority, as Change in Law.

#### 8.2 The Licensee's Remedy

In the event of Change in Law the Licensee may propose to the Licensor modifications to the relevant terms of this Agreement which are reasonable and intended to mitigate the effect of the Change in Law. Thereupon, the Parties shall, in good faith, negotiate and agree upon suitable changes in the terms of this Agreement including extension of the License Period, so as to place the Licensee in substantially the same legal, commercial and economic position as it were prior to such Change in Law.



## ARTICLE 9

### FORCE MAJEURE

#### 9.1 Force Majeure Event

Force Majeure Event shall mean any event or circumstance or a combination of events and circumstances set out hereunder or the consequence(s) thereof which materially and adversely affect the Party claiming force majeure [“Affected Party”] from performing its obligations in whole or in part under this Agreement.

- (a) Acts of God, storm, cyclone, hurricane, flood, tsunami, landslide, volcanic eruption or fire (to the extent originating from a source external to the Project) affecting the construction or operation of the Project/the Project Facilities and Services.
- (b) Radio active contamination, ionizing radiation.
- (c) Epidemic, famine.
- (d) Strikes, boycotts or other forms of labour unrest substantially interrupting supplies and services and the calling of vessels at the Port (excluding strikes or boycotts by employees, agents or representatives of an Affected Party, or its Contractor) or those attributable to any act or omission of any of them;
- (e) Late delivery of machinery, equipment, material, spare parts or consumables for the Project but only to the extent caused by another Force Majeure Event.
- (f) An act of war (whether declared or undeclared), invasion, armed conflict or act of foreign enemy, blockade, embargo, revolution, riot, rebellion, insurrection, terrorist or military action, nuclear blast / explosion, politically motivated sabotage or civil commotion;

#### 9.2 Notice of Force Majeure Event

- (a) The Affected Party shall give notice to the other Party in writing of the occurrence of any of the Force Majeure Event [“the Notice”] as soon as the same arises or as soon as reasonably practicable and in any event within 7 (seven) Days after the Affected Party knew, or ought reasonably to have known, of its occurrence and the adverse effect it has or is likely to have on the performance of its obligations under this Agreement.

- (b) The Notice shall, inter-alia, include full particulars of:
  - (i) the nature, time of occurrence and extent of the Force Majeure Event with evidence in respect thereof;
  - (ii) the duration or estimated duration and the effect or probable effect which such Force Majeure Event has or will have on the Affected Party's ability to perform its obligations or any of them under this Agreement;
  - (iii) the measures which the Affected Party has taken or proposes to take, to alleviate the impact of the Force Majeure Event or to mitigate the damage; and
  - (iv) any other relevant information.
- (c) So long as the Affected Party continues to claim to be affected by a Force Majeure Event, it shall provide the other Party with periodic (fortnightly/monthly) written reports containing the information called for by Article 9.2(b) and such other information as the other Party may reasonably request.

In the event of any dispute between the Licensor and the Licensee as regards whether a particular event constitutes a Force Majeure Event the same shall be resolved by the arbitral process set out in Article 15.3.

### **9.3 Period of Force Majeure**

Period of Force Majeure shall mean the period from the time of occurrence specified in the notice given by the Affected Party in respect of the Force Majeure Event until the earlier of:

- (a) expiry of the period during which the Affected Party is excused from performance of its obligations in accordance with Article 9.4; or
- (b) termination of this Agreement pursuant to Article 9.7 hereof.

### **9.4 Performance Excused**

The Affected Party, to the extent rendered unable to perform its obligations or part thereof under this Agreement as a consequence of the Force Majeure Event shall be excused from performance of the obligations provided that the excuse from performance shall be of no greater scope and of no longer duration than is reasonably warranted by the Force Majeure Event. Provided further, nothing contained herein shall absolve the Affected Party from any payment obligations accrued prior to the occurrence of the underlying Force Majeure Event.

**9.5 Resumption of Performance**

During the Period of force majeure, the Affected Party shall in consultation with the other Party, make all reasonable efforts to limit or mitigate the effects of the Force Majeure Event on the performance of its obligations under this Agreement. The Affected Party shall also make efforts to resume performance of its obligations under this Agreement as soon as possible and upon resumption shall notify the other Party of the same in writing. The other Party shall afford all reasonable assistance to the Affected Party in this regard.

**9.6 Costs, Revised Timetable**

**(a) Costs**

Each Party shall bear its costs, if any, incurred as a consequence of the Force Majeure Event.

**(b) Extension of time/ period**

The Affected Party shall be granted by the other Party, extension of time specified in this Agreement for the performance of any obligation by such period not exceeding the period during which the relative performance was affected by the Force Majeure Event. Such extension may include extension of the License Period by the Licensor in appropriate cases.

**9.7 Termination Due to Force Majeure Event**

If the Period of Force Majeure continues or in the reasonable judgment of the Parties is likely to continue beyond a period of 120 Days, the Parties may mutually decide to terminate this Agreement or continue this Agreement on mutually agreed revised terms. If the Parties are unable to reach an agreement in this regard, the Affected Party shall after the expiry of the said period of 120 days, be entitled to terminate the Agreement in which event, the provisions of Article 11 and 12 shall, to the extent expressly made applicable, apply.

## ARTICLE 10

### EVENTS OF DEFAULT

#### 10.1 Events of Default

Event of Default means the Licensee Event of Default or the Licensor Event of Default or both as the context may admit or require.

##### **(a) The Licensee Event of Default**

The 'Licensee Event of Default' means any of the following events unless such an event has occurred as a consequence of the Licensor Event of Default or a Force Majeure Event:

- (i) the Licensee's repudiation or failure to perform or discharge any of its obligations in accordance with the provisions of this Agreement.
- (ii) the Licensee's failure to perform or discharge any of its obligations under any other Transaction Documents, which has or is likely to have a Material Adverse Effect.
- (iii) any representation made or warranties given by the Licensee under this Agreement is found to be false or misleading.
- (iv) the Licensee passing a resolution for voluntary winding up.
- (v) appointment of a provisional liquidator, administrator, Trustee or receiver of the whole or substantially whole of the undertaking of the Licensee by a court of competent jurisdiction in proceedings for winding up or any other legal proceedings.
- (vi) levy of an execution or distraint on the Licensee's Assets which has or is likely to have Material Adverse Effect and such execution or distraint remaining in force for a period exceeding 30 days.
- (vii) amalgamation of the Licensee with any other company or reconstruction or transfer of the whole or part of the Licensee's undertaking [other than transfer of assets in the ordinary course of business] without the Licensor's prior written approval, provided, if the amalgamated entity, reconstructed entity or the transferee as the case may be, has the ability demonstrated to the satisfaction of the Licensor, to undertake, perform/discharge the obligations of the Licensee under this Agreement, necessary approval shall be granted by the Licensor.

- (viii) the Licensee engaging or knowingly allowing any of its employees, agents, Contractor or representative to engage in any activity prohibited by law or which constitutes a breach of or an offence under any law, in the course of any activity undertaken pursuant to this Agreement.

**(b) The Licensor Event of Default**

- (i) the Licensor's repudiation or failure to perform or discharge any of its obligations in accordance with the provisions of this Agreement unless such failure has occurred as a consequence of any Licensee Event of Default or a Force Majeure Event.
- (ii) any representation made or warranties given by the Licensor under this Agreement is found to be false or misleading.

**10.2 Parties Rights**

- a) Upon the occurrence of the Licensee Event of Default, the Licensor shall without prejudice to any other rights and remedies available to it under this Agreement be entitled to terminate this Agreement as per the terms of this Agreement and as per the applicable laws.
- b) Upon the occurrence of the Licensor Event of Default, the Licensee shall without prejudice to any other rights and remedies available to it under this Agreement be entitled to terminate this Agreement as per the terms of the Agreement and as per the applicable laws.

Provided that before proceeding to terminate this Agreement, the Party entitled to do so shall give due consideration and shall have due regard to the nature of the underlying Event of Default, its implication on the performance of the respective obligations of Parties under this Agreement and the circumstances in which the same has occurred.

**10.3 Consultation Notice**

Either Party exercising its right under Article 10.2, shall issue to the other Party a notice in writing specifying in reasonable detail the underlying Event of Default(s) and proposing consultation amongst the Parties and the Lenders to consider possible measures of curing or otherwise dealing with the underlying Event of Default (Consultation Notice),

**10.4 Remedial Process**

Following the issue of Consultation Notice by either Party, within a period not exceeding 90 Days or such extended period as they may agree ["Remedial Period"] the Parties shall, in consultation with the Lenders,

endeavour to arrive at an agreement as to the manner of rectifying or remedying the underlying Event of Default. Without prejudice to this, if the underlying event is a Licensee Event of Default, the Parties shall in consultation with the Lenders endeavour to arrive at an agreement as to one or more of the following measures and/or such other measures as may be considered appropriate by them in the attendant circumstances;

- (a) the change of management or control/ownership of the Licensee;
- (b) the replacement of the Licensee by a new operator [“Potential Licensee”] on terms contained in this Agreement, proposed by either of them or the Lenders and the specific terms and conditions of such replacement which shall include :
  - (i) the criteria for selection of the Potential Licensee,
  - (ii) the transfer of rights and obligations of the Licensee surviving under this Agreement to the Potential Licensee,
  - (iii) handing over/ transfer of the Licensor’s Assets and the Project Facilities and Services to the Potential Licensee,
  - (iv) assumption by the Potential Licensee of the outstanding obligations of the Licensee under the Financing Documents and preserving Lenders’ charge on the Licensee’s assets ,
  - (v) assumption by the Potential Licensee of any amounts due to the Licensor from the Licensee under this Agreement and the Loan Agreement,
  - (vi) payment of consideration for the Licensee’s assets comprised in the Project Facilities and Services and the manner of appropriation thereof.

## **10.5 Obligations during Remedial Period**

During the Remedial Period, the Parties shall continue to perform their respective obligations under this Agreement which can be performed, failing which the Party in breach shall compensate the other Party for any loss or damage occasioned or suffered on account of the underlying failure/breach.

## **10.6 Revocation of Consultation Notice**

If during the Remedial Period the underlying Event of Default is cured or waived or the Parties and the Lenders agree upon any of the measures set

out in Article 10.4, the Consultation Notice shall be withdrawn by the Party who has issued the same.

**10.7 Termination due to Events of Default**

If before the expiry of the Remedial Period, the underlying Event of Default is neither cured nor waived nor the Parties and the Lenders have agreed upon any of the measures in accordance with Article 10.4, the Party who has issued the Consultation Notice shall have the right to terminate this Agreement, in which event, the provisions of Article 11 and 12 shall, to the extent expressly made applicable, apply.

**10.8 Step-in-rights**

The Licensee agrees that the Licensor shall be entitled to operate the Port on the occurrence of a Licensee Event of Default. In the event of a Licensee Event of Default, the Licensor may (but shall not be obliged to) operate, or procure and cause operation of the Port upon the issue of the Termination Notice.

## ARTICLE 11

### TERMINATION OF THE LICENSE/AGREEMENT

#### 11.1 Termination Procedure

The Party entitled to terminate this Agreement either on account of a Force Majeure Event or on account of an Event of Default under this agreement shall do so by issue of a notice in writing [“Termination Notice”] to the other Party and simultaneously deliver a copy thereof to the Lenders. The Termination Notice shall be of not less than 90 Days and not ordinarily be more than 180 days, [“Termination Period”] and at the expiry of the Termination Period, this Agreement shall stand terminated.

#### 11.2 Obligations during Termination Period

During Termination Period, the Parties shall subject where applicable to the provisions of Article 9, continue to perform such of their respective obligations under this Agreement which are capable of being performed with the object, as far as possible, of ensuring continued availability of the Project Facilities and Services to the users, failing which the Party in breach shall compensate the other Party for any loss or damage occasioned or suffered on account of the underlying failure/breach.

#### 11.3 Requisition

Upon issue or receipt as the case may be of Termination Notice, either as a consequence of a Force Majeure Event or as a consequence of an Event of Default, the Licensor shall by a notice in writing [“Requisition”] call upon the Licensee to furnish the following information to enable the Licensor to estimate the likely compensation payable by the Licensor to the Licensee and/or to finalise the items of Licensee’s assets comprised in the Project Facilities and Services to be handed over to/taken over by the Licensor.

- a) the particulars of Debt Due supported by Lenders’ Certificate;
- b) data or records [to be specified by Licensor] regarding the operation and maintenance of the Project Facilities and Services; and
- c) any other information or records [to be specified by Licensor] regarding Licensee, its business, assets and liabilities

The Licensee shall within a period of 45 days of receipt of Requisition furnish the particulars called for by the Licensor.



#### **11.4 Condition Survey**

- a) The Licensee agrees that on the service of a Termination Notice, it shall conduct or cause to be conducted by the Independent Engineer under the Licensor's supervision, a condition survey of the Project Facilities and Services including the Licensor's Assets to ascertain the condition thereof, verifying compliance with the Licensee's obligations under this Agreement and to prepare an inventory of the assets comprised in the Project Facilities and Services.
- b) If, as a result of the condition survey, the Licensor shall observe/notice that the Licensor's Assets and/or the Project Facilities and Services or any part thereof have/has not been operated and maintained in accordance with the requirements therefor under this Agreement (normal wear and tear excepted) the Licensee shall, at its cost and expenses, take all necessary steps to put the same in good working conditions well before the Transfer Date.
- c) In the event the Licensee fails to comply with the provisions of this Agreement, the Licensor may itself cause the condition survey and inventory of Licensor's Assets and the Project Facilities and Services to be conducted. The Licensor shall be compensated by the Licensee for any costs incurred in conducting such survey and preparation of inventory as also in putting the Project Facilities and Services in good working condition.

#### **11.5 Consequences of Termination**

Without prejudice to any other consequences or requirements under this Agreement or under any law, the following consequences shall follow upon expiry of the License Period by efflux of time or due to a Force Majeure Event or an Event of Default.

##### **(a) Transfer of Assets**

- (i) On the Transfer Date, the Licensee shall subject to the provisions of this Agreement:
  - (a) Handover/surrender vacant and peaceful possession of the Licensor's Assets to the Licensor free of all the charges and/or encumbrances and free of cost.
  - (b) transfer all its rights, titles and interest in or over the tangible assets comprised in the Project Facilities and Services (including such of the movable assets that the Licensor desires to take over) to the Licensor and execute such deeds and documents as may be necessary for the purpose and complete all legal or other formalities required in this regard.

- (ii) On the Transfer Date, the Licensor shall subject to the provision of this Agreement, pay to the Licensee the compensation as the case may be in accordance with the provisions of Article 12.
- (iii) The Licensor and the Licensee shall at least six months' prior to the expiry of the License Period or upon commencement of Termination Period as the case may be, promptly agree upon the modalities and take all necessary steps to complete the aforesaid process of transfer of assets and payment of compensation as the case may be on the Transfer Date. During this period, the designated key personnel of the Licensor shall be associated with the operations of the Project Facilities and Services (except when the same is impossible due to a Force Majeure Event) in order to facilitate smooth take over of the same by the Licensor on the Transfer Date.
- (iv) It is clarified that only the assets of the Licensee shall be taken over and no liabilities, including without limitation liabilities relating to labour and personnel related obligations of the Licensee shall be taken over by the Licensor.

**(b) Project Contracts**

The Licensee shall at the cost of the Licensor transfer/assign such of the Project Contracts, which the Licensor may require to be transferred in its favour subject to the counter-parties to such contracts consenting to such transfer/assignment. The Licensee shall entirely at its cost, terminate all such Project Contracts which are not transferred/assigned to the Licensor provided, if the termination is on account of the Licensor Event of Default the Licensor shall compensate the Licensee to the extent of the termination payments, if any, made or to be made by the Licensee to the counter parties to such contracts.

**(c) Applicable Permits**

The Licensee shall, at its cost, transfer to the Licensor all such Applicable Permits which the Licensor may require and which can be legally transferred. Provided if the termination is on account of Licensor Event of Default, the cost of such transfer shall be borne/reimbursed by the Licensor.

**(d) Guarantees**

The Licensor shall be entitled to encash any subsisting bank guarantee(s) provided by the Licensee, if the termination is on account of a Licensee Event of Default.

## ARTICLE 12

### COMPENSATION

#### 12.1 Compensation

##### (a) Termination due to Force Majeure Event

If the termination is due to a Force Majeure Event, the compensation payable by the Licensor to the Licensee shall be the higher of;

- (i) the aggregate Depreciated Historical cost (DHC), as determined by an independent Expert being a reputed valuer, of (i) the tangible assets forming part of, fixed or attached to the ground created, installed or provided by the Licensee and comprised in the Project Facilities and Services including cargo/container handling equipments, which in the reasonable judgement of the said Expert are capable of being put to use/utilised by the Licensor and (ii) the moveable assets which the Licensor agrees to take over

AND

- (ii) Debt due

LESS any amount due to the Licensor from the Licensee under this Agreement or any other agreement between the Licensor and the Licensee, including without limitation the Loan Agreement and the Shareholders Agreement.

Provided that the compensation shall in no event include the value of the portion of any asset affected by Force Majeure Event, to the extent of the insurance claim received or admitted in relation to such Force Majeure Event.

##### (b) Termination due to Licensee Event of Default

If the termination is due to a Licensee Event of Default, the compensation payable by the Licensor to the Licensee shall be the lower of;

- (i) fifty (50)% of the Depreciated Historic Cost (DHC), as determined by an independent Expert being a reputed valuer, of (a) tangible assets forming part of, fixed or attached to the ground created, installed or provided by the Licensee and comprised in the Project Facilities and Services including the cargo/container handling equipments, which in the reasonable judgement of the said independent Expert are capable of being put to use/utilised by the Licensor and (b) the movable assets which the Licensor agrees to take over, LESS amounts if any due to the

Licensor from the Licensee under the provisions of this Agreement, or any other agreement between the Licensor and the Licensee, including without limitation the Loan Agreement and the Shareholders Agreement;

AND

(ii) the Debt Due

**(c) Termination due to Licensor Event of Default**

If the termination is due to a Licensor Event of Default, the compensation payable by the Licensor shall be the aggregate of the Debt Due and the fair market value of the aggregate equity shares of the Licensee as determined by an independent Expert (on the basis that the Licensee is a going concern but limited to the unexhausted / un-expired License Period), LESS amounts if any due to the Licensor from the Licensee under the provisions of this Agreement or any other agreement between the Licensor and the Licensee, including without limitation the Loan Agreement and the Shareholders Agreement.

The determination of fair market value of the equity shares of the Licensee for the purpose of this Article shall be in accordance with the most recent guidelines of the Assets Valuation Standards Committee, Statements of Asset Valuation Practice and Guidance Notes of the Royal Institution of Chartered Surveyors, United Kingdom, publication dated September 2001 or as amended from time to time. It is clarified for the avoidance of doubt that towards the expiry of the License Period the fair market value of the aggregate equity shares of the Licensee will diminish and at the expiry of the License Period, the fair market value of the aggregate equity shares of the Licensee shall be zero.

**12.2 Terminal Value**

In the event of expiry of License by efflux of time (the License having run its full course), the Licensee shall hand over/ transfer the vacant possession of the Project Facilities and Services, including all moveable property, to the Licensor free of cost.

**12.3 Payment of Compensation / Terminal Value to Lenders**

The Licensee hereby irrevocably authorises the Licensor to pay to the Lenders or at their instruction to any designated bank account in India the compensation/ Terminal Value payable to the Licensee, The Licensee confirms that upon such payment being made, the Licensor shall stand duly discharged of its obligations regarding payment of compensation / Terminal Value under this Agreement and the charge created by the

Licensee in favour of the Lenders on any of its assets taken over by the Licensor shall stand satisfied and all such assets shall on and from the Transfer Date be free from such charge. The Licensee further confirms that payment of compensation/Terminal Value by Licensor in accordance with this Article 12.3 shall be a valid discharge to the Licensor in respect of Licensor's obligation regarding payment of compensation/ Terminal Value to the Licensee under this Agreement.

Provided notwithstanding anything inconsistent contained in this Agreement, the Licensee/the Lenders as the case may be shall be entitled to remove at its/ their cost all such movable assets which are not taken over by the Licensor and to deal with the same in accordance with their respective rights under law.

Provided further, if there are no amounts outstanding under the Financing Documents and a certificate to that effect issued by the Lenders is furnished by the Licensee to the Licensor, the compensation/Terminal Value shall be paid by the Licensor to the Licensee directly.

#### **12.4 Delayed Payment of Compensation / Terminal Value**

If for any reasons, other than those attributable to the Licensee, the Licensor fails to pay the Terminal Value or compensation as the case may be on the Transfer Date, the Licensor shall be liable to pay interest @ equivalent to the bank rate as published by the Reserve Bank of India, plus 2%, per annum thereon from the Transfer Date till payment thereof. Provided however, in the event that such delay in payment continues for a period of 90 Days from the Transfer Date, the Licensor shall be liable to pay interest @ equivalent to the prime lending rate of the State Bank of India, plus 0.5% commencing from the 91<sup>st</sup> Day from the Transfer Date till payment thereof. Provided, nothing contained in this Article shall be deemed to authorise any delay in payment of compensation / Terminal Value in accordance with this Agreement.

#### **12.5 Delayed Transfer of Assets**

If for any reasons other than those attributable to the Licensor, the Licensee fails to transfer assets, rights and contracts on the Transfer Date in accordance with Article 11.5 read with Article 13, there shall be no suspension of the operation and maintenance of the Project Facilities and Services and the Licensee shall, as agent of the Licensor (a) continue to operate and maintain the Project Facilities and Services until completion of the transfer formalities and (b) account for and pay to the Licensor the revenue net of operating costs and statutory dues, from such operations. In addition the Licensee shall also be liable to pay to the Licensor, for each day of delay, liquidated damages computed at the rate of the average daily after tax profits earned during the three years immediately

preceding the Transfer Date. Provided nothing contained in this Article 12.5 shall be deemed or construed to authorise delay in transfer of assets, rights and contracts by the Licensee to the Licensor in accordance with the requirements thereof under this Agreement.

In case the transfer of assets by the Licensee to the Licensor is delayed for reasons attributable to the Licensor, the Licensee shall nonetheless continue to operate the Project Facilities and Services but as agent of the Licensor. Provided, however, the Licensee shall not be liable to pay any liquidated damages and shall continue to share the revenue from the operation at the same percentage as mentioned in this Article.

#### **12.6 Remedies Cumulative**

The exercise of right by either Party to terminate this Agreement, as provided herein, shall not preclude, such Party from availing any other rights or remedies that may be available to it under law. All remedies available to the Parties shall be cumulative and the exercise or failure thereof of one or more remedies by any Party shall not limit or preclude the exercise of or constitute a waiver of any other remedies by such Party.

## ARTICLE 13

### TRANSFER ON EXPIRY OF THE LICENSE PERIOD

#### 13.1 General Scope of Transfer/Payment

The Parties shall perform/discharge their respective obligations to be performed or discharged under the provisions of this Agreement on the Transfer Date in entirety and unless otherwise provided in this Agreement, the cost involved in transfer contemplated shall be shared by the respective Parties. Without prejudice to the generality of this provision, the transactions to be consummated and the formalities to be completed by the Parties on the Transfer Date shall be the following:

#### 13.2 Licensee's Obligations

The Licensee shall;

- (a) hand over vacant and peaceful possession of the Licensor's Assets to the Licensor free of all the charges and/or encumbrances and free of cost;
- (b) transfer all its rights titles and interests in the assets comprised in the Project Facilities and Services which are required to be transferred to the Licensor in accordance with this Agreement and execute such deeds and documents as may be necessary for the purpose and complete all legal or other formalities required in this regard;
- (c) hand over to the Licensor all documents including as built drawings, manuals and records relating to operation and maintenance of the Project Facilities and Services;
- (d) transfer technology and up-to-date know-how relating to operation and maintenance of the Licensor's Assets and/or the Project Facilities and Services;
- (e) transfer or cause to be transferred to the Licensor any Project Contracts which are (i) valid and subsisting, (ii) capable of being transferred to the Licensor and (iii) those the Licensor has chosen to take over, and cancel or cause to be cancelled such Project Contracts not transferred to the Licensor.
- (f) at its cost remove from the Licensor's Assets all such moveable assets which are not taken over by or transferred to the Licensor.

(g) train the Licensor's personnel in the manner set out in Appendix 18, in order to facilitate them aware of the matters and the smooth take-over of the Project Facilities and Services by the Licensor.

**13.3 Licensee's Responsibility**

Licensee's employees, direct or indirect, shall be their responsibility even after the expiry of the License Period. However, in case the Licensor decides to take over the equipment and operate the terminal, the required number of employees of the Licensee may be taken by the Licensor on mutually agreed terms and conditions. The Parties shall meet at least Six (6) months prior to the Transfer Date to discuss regarding the smooth transfer of assets and modalities relating thereto.

**13.4 Licensor's Obligations**

The Licensor may pay the amounts due and payable to the Licensee in accordance with the provisions of this Agreement, to the Lenders, or at their instructions to any designated bank account in India, or to the Licensee, as the case may be.

**13.5 Risk**

Until transfer in accordance with this Article 13, the Licensor's Assets possessed by the Licensee and the Project Facilities and Services shall remain at the sole risk of the Licensee except for any loss or damage caused to or suffered by the Licensee due to any act or omission or negligence on the part of the Licensor under this Agreement.



## ARTICLE 14

### EARLY DETERMINATION

#### 14.1 Early Determination

Notwithstanding that none of the events specified in Article 9 or Article 10 has occurred or that the Licensee has been discharging its obligations in accordance with this Agreement, the Licensor shall subject to the provisions of the following Articles 14.2 and 14.3, have the right to determine the License/this Agreement earlier than the License Period specified in Article 2.2 ("Early Determination") for reasons of national security, national emergency or general public interest.

#### 14.2 Notice of Early Determination

The Licensor shall issue a written notice of not less than three (3) Months of the intended Early Determination, to the Licensee specifying therein in reasonable detail the reasons for the Early Determination and expressing its readiness to take over whole of the Licensee's undertaking in accordance with the provisions of Article 14.3.

#### 14.3 Take over of Assets and Liabilities

- a) On or before the expiry of the period of notice of intended Early Determination issued by the Licensor pursuant to Article 14.2, the Licensor shall pay for and acquire the whole of the undertaking assets and liabilities) of the Licensee at a price equal to the aggregate of (i) the fair value as determined by an independent Expert (on the basis that the Licensee is a going concern but limited to the unexhausted / unexpired License Period) of the aggregate equity shares of the Licensee and (ii) the termination payments, if any, payable by the Licensee to the counter parties to the Project Contracts LESS amounts if any, due to the Licensor from the Licensee under this Agreement
- b) The payment to the Lenders of the amount of the Debt Due (pursuant to take-over of liabilities) and to the Licensee of the price determined by the independent Expert in accordance with the preceding clause (a) shall be made simultaneously on or before the expiry of the period of notice of intended Early Determination. It shall however be open to the Licensor to enter into any other arrangement with the Lenders for payment of the Debt Due on mutually agreed terms.
- c) Simultaneously with the payment as aforesaid by the Licensor, the Licensee shall hand over/transfer vacant and peaceful possession of Licensor's Assets and the Project Facilities and Services. The Licensee shall also (i) deliver to the Licensor the documents, manuals and records

referred to in Article 13.2 (c), (ii) transfer technology and up-to-date know-how as per Article 13.2(d) and (iii) transfer/cause to be transferred Project Contracts in accordance with Article 13.2(e) and comply with all the formalities in connection therewith. The cost of such transfer shall be borne by the Licensor.

## ARTICLE 15

### DISPUTE RESOLUTION

#### 15.1 Amicable Settlement

If any dispute or difference or claims of any kind arises between the Licensor and the Licensee in connection with construction, interpretation or application of any terms and conditions or any matter or thing in any way connected with or in connection with or arising out of this Agreement, or the rights, duties or liabilities of any Party under this Agreement, whether before or after the Termination of this Agreement, then the Parties shall meet together promptly, at the request of any Party, in an effort to resolve such dispute, difference or claim by discussion between them.

#### 15.2 Assistance of Expert

The Parties may, in appropriate cases agree to refer the matter to an Expert appointed by them with mutual consent. The Parties agree to abide by the decision/opinion of the Expert. The cost of obtaining the service of the Expert shall be shared equally.

#### 15.3 Arbitration

##### a) Arbitrators

Failing amicable settlement and/or settlement with the assistance of Expert, the dispute or differences or claims as the case may be, shall be finally settled by binding arbitration under the Arbitration and Conciliation Act, 1996. The arbitration shall be by an arbitral tribunal of three Arbitrators, one each to be appointed by each Party and the third to be appointed by the two arbitrators appointed by the Parties. A Party requiring arbitration shall appoint an Arbitrator in writing, inform the other Party about such appointment and call upon the other Party to appoint its Arbitrator. If the other Party fails to appoint its Arbitrator, the Party appointing Arbitrator shall take steps in accordance with Arbitration and Conciliation Act, 1996 and any subsequent enactments or modifications thereto.

##### b) Place of Arbitration

The place of arbitration shall be Thiruvananthapuram, Kerala, India but by mutual agreement of the Parties, the arbitration hearings, if required, can be held elsewhere from time to time.

##### c) English Language

The request for arbitration, the answer to the request, the terms of reference, any written submissions, any orders and rulings shall be in English and, if

oral hearings take place, English shall be the language to be used in the hearings.

**d) Procedure**

The procedure to be followed within the arbitration, including appointment of arbitrator / arbitral tribunal, the rules of evidence which are to apply shall be in accordance with the Arbitration and Conciliation Act, 1996.

**e) Enforcement of Award**

Any decision or award resulting from arbitration shall be final and binding upon the Parties. The Parties hereto hereby waive, to the extent permitted by law, any rights to appeal or to review of such award by any court or tribunal. The Parties hereto agree that the arbitral award may be enforced against the Parties to the arbitration proceeding or their assets wherever they may be found and that a judgement upon the arbitral award may be entered in any court having jurisdiction thereof.

**f) Fees and Expenses**

The fees and expenses of the arbitrators and all other expenses of the arbitration shall be initially borne and paid by respective Parties subject to determination by the arbitrators. The arbitrators may provide in the arbitral award for the reimbursement to the prevailing party of its costs and expenses in bringing or defending the arbitration claim, including legal fees and expenses incurred by Party.

**g) Performance during Arbitration**

Pending the submission of and/or decision on a dispute, difference or claim or until the arbitral award is published, the Parties shall continue to perform all of their obligations under this Agreement without prejudice to a final adjustment in accordance with such award.

## ARTICLE 16

### REPRESENTATIONS AND WARRANTIES

#### 16.1 Mutual Representations and Warranties

Each Party represents and warrants to the other Party that:

- (a) it is duly organised, validly existing and in good standing under the laws of the jurisdiction of its incorporation/establishment;
- (b) it has full power and authority to execute, deliver and perform its obligations under this Agreement;
- (c) it has taken all necessary action to authorise the execution, delivery and performance of this Agreement;
- (d) this Agreement constitutes the legal, valid and binding obligation and enforceable in accordance with the terms hereof;
- (e) there are no actions, suits or proceedings pending or to its best knowledge, threatened against or affecting it before any court, administrative body or arbitral tribunal which might materially and adversely affect its ability to meet or perform any of its obligations under this Agreement.

#### 16.2 Waiver of Sovereign Immunity

Each Party hereto unconditionally and irrevocably:

- (a) agrees that the execution, delivery and performance by it of this Agreement and all other agreements, contracts, documents and writings relating to this Agreement constitute private and commercial acts and not public or governmental acts;
- (b) agrees that should any proceedings be brought against it or its assets, other than the assets protected by the diplomatic and consular privileges under the Foreign Sovereign Immunities Act or any analogous legislation ("Exempted Assets") in any jurisdiction, as may be applicable in relation to this Agreement or any transaction contemplated by this Agreement, no immunity, sovereign or otherwise from such proceedings, execution, attachment or other legal process shall be claimed by and/or on behalf of itself or with respect to any of its assets (other than the Exempted Assets);
- (c) consents generally in respect of the enforcement of any judgement against it in any proceedings in any jurisdiction to the giving of any relief or the issue of any process in connection with such proceedings including without limitation the making, enforcement or execution against or in

respect of any property irrespective of its use subject to sub-clause (b) above.

### **16.3 Recognition of Lenders Rights'**

The Parties recognise and acknowledge that the Lenders while considering Financial Assistance would rely on the provisions of this Agreement in particular those which are intended to confer certain interests and benefits on them in consideration of their providing Financial Assistance. Accordingly the Lenders are deemed to be beneficiaries under this Agreement. In any legal /arbitral proceedings involving any issue the outcome whereof is likely to affect their interests/benefits, the Lenders shall at their option, be deemed to be necessary parties.

## ARTICLE 17

### MISCELLANEOUS PROVISIONS

#### 17.1 Datum

The datum to which all levels shall be referred for the purpose of the Project is the Chart Datum (0.000), which is 0.600m below mean sea level.

#### 17.2 Survival of Obligations

Any cause or action which may have occurred in favour of either Party or any right which is vested in either Party under any of the provisions of this Agreement during the License Period as the case may be as a result of any act, omission, deed, matter or thing done or omitted to be done by either Party before the expiry of the License Period by efflux of time or otherwise in accordance with the provisions of this Agreement shall survive the expiry of the License Period/ Termination of this Agreement.

#### 17.3 Articles to survive Termination

The provisions of Articles 11 to 16 shall, to the fullest extent necessary to give effect thereto, survive the License Period / the Termination of this Agreement and the obligations of parties to be performed / discharged following the termination/ early determination of this Agreement shall accordingly be performed / discharged by the Parties.

#### 17.4 Joint Responsibility

In the event that any damage is caused in part only due to the negligence or default or omission on the part of the Licensor and in part only due to the negligence or default or omission on the part of the Licensee. Each Party shall be liable to the other Party only in proportion to its respective degree of negligence or default or omission as the case may be.

#### 17.5 Several Obligations

Nothing contained in this Agreement shall be construed to create an association, trust, partnership, agency or joint venture among the Parties and Parties shall be liable to perform their respective duties and discharge their respective liabilities or obligations in accordance with the Provisions of this Agreement.

#### 17.6 Separability

If for any reason whatsoever any provision or any part(s) of this Agreement is held or shall be declared to be void or illegal or invalid under present or

future laws or regulations effective and applicable during the License Period, by any competent arbitral tribunal or court, such provisions shall be fully separable and this License shall be constructed as if such provision or such part(s) of this Agreement never comprised part of this Agreement and the remaining provisions of this Agreement shall remain in full force and effect and shall not be affected by such void or illegal or invalid provision or by its severance from this Agreement.

**17.7 Notices**

Unless otherwise stated, notices to be given under this Agreement including but not limited to a notice of waiver of any term or related or breach of any term of this Agreement shall be in writing and shall be given by hand delivery, recognised international courier, mail, telex or facsimile transmission and delivered or transmitted to the Parties at their respective addresses set forth below:

The Licensor

**Secretary to the Government of Kerala,  
Ports Department,  
Government Secretariat,  
Thiruvananthapuram, Kerala - 695 001  
Telefax # 91-471- 2327938;**

Attention:

The Licensee

The MANAGING DIRECTOR  
-----Ltd  
-----  
-----

Fax No. \_\_\_\_\_

or such other address, telex number, or facsimile number as may be duly notified by the respective Parties from time to time, and shall be deemed to have been made or delivered (i) in the case of any communication made by letter, when delivered by hand, by recognised international courier or by mail (registered, return receipt requested) at that address and (ii) in the case of any communication made by telex or facsimile, when transmitted properly addressed to such telex number or facsimile number.



**17.8 Waiver**

No waiver of any term or condition or of the breach thereof by any Party shall be valid unless expressed in writing and signed by such Party and communicated by such Party to the other Party in accordance with the provisions of Article 17.7 of this Agreement. A waiver by any Party of any term or condition or breach thereof in a given case shall not be deemed or construed as a general waiver of such term or condition or the breach in the future or waiver of any other terms or conditions or breach of this Agreement.

**17.9 Amendments, Modifications etc.**

No amendments, modifications or alterations of or any additions to the terms and conditions of this Agreement shall be valid unless the same be in writing and agreed to by the Parties to the Agreement.

**17.10 Governing Law**

This Agreement shall be governed by and construed in accordance with the laws of the Republic of India.

IN WITNESS WHEREOF, the Parties, intending to be legally bound, have caused this Agreement on the dates and year first herein above written.

Signed on behalf of the Governor  
of the State of Kerala

Signed and Delivered by the  
Licensee by the hand of its  
authorised representative Mr.\_\_\_\_\_  
pursuant to Resolution dated..... of  
its Board of Directors.

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- Appendix 1 - Consortium Agreement
- Appendix 2 - Guidelines for the computation of Depreciated Historical Cost
- Appendix 3 - Licensor's Assets
- Appendix 4 - Environment Management Plan
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- Appendix 6 - Project Facilities and Services
- Appendix 7 - Project Schedule
- Appendix 8 - Preliminary Design Criteria and Technical Specifications
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- Appendix 15 - Operations Phase Guarantee
- Appendix 16 - Waste Management and Port Safety Plan
- Appendix 17 - External Infrastructure Facilities, Utilities & Services
- Appendix 18 - Schedule for Training
- Appendix 19 - List of Design Assumptions made by L&T Ramboll for Feasibility Study on which variance maybe permitted
- Appendix 20 - Due Diligence Check List

**APPENDIX 1**  
**CONSORTIUM AGREEMENT**  
**[TO BE PROVIDED BY THE LICENSEE]**

**APPENDIX 2**  
**GUIDELINES FOR THE COMPUTATION OF DEPRECIATED HISTORICAL COST**

1. The Depreciated Historical Cost (“DHC”), wherever applicable, shall be computed based on the following norms:

The depreciation shall be calculated on straight line, basis. The depreciation rates shall be in accordance with the provisions of the Companies Act 1956, as may be amended from time to time.

2. The date of existence of asset for the computation of the depreciated value shall be the date on which it was scheduled to be completed in all respects or the date on which it becomes capable of being put to or used for commercial operation, whichever is earlier. In respect of replacement assets, the assets shall be deemed to have come into existence when the same is capable of being put to or used for commercial operation as the replacement asset or the date when it was actually put to use, whichever is earlier.
3. Wherever Book Value or Depreciated Historical Cost is applicable, the original cost of such assets and those which have come in as replacement assets shall be that cost, established by the Licensee, to the satisfaction of the Licensor, with Chartered Accountant's, Public Accountant's and valuer's certificates and duly supported by bills and other documents of manufacturers/suppliers/civil works contractors, at the time of installation of the new assets or replacement of the assets as the case may be.

**APPENDIX 3  
LICENSOR'S ASSETS**

Land to be reclaimed by the Licensee and as described in the map/drawing attached.

**APPENDIX - 4**  
**ENVIRONMENT MANAGEMENT PLAN**

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## **Environmental Management Plan**

### **General**

An Environmental Management Plan (EMP) is an implementation plan, which consists of mitigation measures, monitoring program and institutional arrangements to be adopted during the development and operation phases of Port to minimize the adverse environmental and social impacts. The EMP formulated for the Port is presented in this Appendix. The plan also includes the actions to be taken to implement the mitigation measures. The budgetary estimate for Environmental Monitoring Program, during the construction and operation phases is also included. The Environmental Monitoring Programme is presented in A.4.6.

### **Mitigation Measures – Construction Phase**

The environmental impacts associated with the development phase result from capital dredging, reclamation, construction of breakwaters, construction of cargo berths and container stacking area, quarrying, transportation of construction material and development of external infrastructure such as road / rail linkage and pipeline for water supply. The impacts will be on the marine, terrestrial and socio-economic environments. The mitigation measures for each of the activities, which are exerting impacts on the environment, are presented in the following paragraphs.

### **Capital Dredging, Reclamation and Construction of Breakwaters**

The capital dredging at Port would generate dredged material, cause disturbance to the bottom sediments, impacts on the marine water quality, air and noise pollution, etc. The capital dredged material will be used in reclamation. For reclamation additional fill material will be required. The construction of breakwaters will require large volume of rock. The measures proposed to be adopted for mitigation of the impacts are:

Interaction with local fishing communities through the fishing co-operatives / unions, community leaders; and through direct contacts and informal talks with fishermen will be held so that they are made aware of the construction of the port.

These interactions would be in continuation to the Public Information Consultation (PIC) exercises carried out during this study. These focus group interactions will ensure to be a forum for the Department of Ports, Government of Kerala to appreciate the concerns of public and clear apprehensions, if any. Pursuant to this activity, any specific remedial measures not already envisaged will be undertaken paving way for winning social confidence and co-operation of the local populace.

Local fishermen in Vizhinjam will be informed, through informal focus group interactions / discussions, about the construction so that they avoid the area in and around the immediate vicinity.



The construction zones would be demarcated by installing marker buoys along with display / signboards prohibiting movement of fishermen, limited to the construction period, in and around the construction limits. The signboards will be in Malayalam and other vernacular language.

Mitigation measures like provision of silt screens, cessation of operations intermittently for regaining lower turbid levels will be adopted. The construction operations, if possible, will be limited to daytime to provide recuperation time at night and reduce the turbidity levels.

The turbidity at the dredged site will be minimised through adoption of less intrusive dredging procedures, provision of silt curtains and timing of the dredging activity.

It will be ensured that the barges / workboats have appropriate system (slop tanks) for collection of liquid / solid waste generated on board and it is transferred on shore for treatment and disposal regularly. No wastes will be discharged into the sea throughout construction.

Extreme precaution was taken during the planning stage to ensure that there will be no disturbance to adjacent properties / habitations. If this is warranted, then the same would be restored with consent from the affected persons.

Keeping in view the base line data generated prior to commencement of construction, normal annual fluctuations, extent and duration of construction, the services of a marine biologist will be engaged, if required for recommending mitigation measures during construction.

During construction and dredging, it will be ensured that the operational area is limited to bare minimum so that the impacted zone is minimal.

Extreme precaution will be taken not to hurt the sentiments and cultural interests of the local fishermen.

Ambient noise levels will be monitored during offshore construction. The monitoring program will cover all hours of construction. The high noise prone operations will be identified through monitoring and such activities will be regulated to the daytime. Noise attenuation measures will be provided so that noise limits stipulated by CPCB are not exceeded at the nearest habitations. Protective gear like earplugs, if necessary, will be provided to operating personnel exposed to noise levels beyond limits stipulated by CPCB. Rotation of personnel may also be considered.

Diesel driven engines of workboats, barges and dredgers will be well-maintained and will meet emission norms of diesel vehicles. The Pollution Under Control Certificates for CO for all deployed equipment / vehicles driven by diesel and / or petrol or any other forms of hydrocarbons will be checked. The certificates will be revalidated once in a month and emission tests will be conducted on-site.

Seawater quality monitoring program will be initiated with special emphasis on turbidity and will commence at least one week prior to start of construction / dredging and will continue throughout the construction. The monitoring prior to commencement of construction / dredging would generate baseline data using which the construction activity can be regulated. The seawater quality will be monitored on daily basis and will cover physico-chemical, heavy metals and biological parameters. Turbidity will be monitored thrice a day covering the complete working shift.

Currently there are no standards in India for turbidity levels. Keeping this in view, during construction, it will be attempted to meet the Operational and Performance Standards for Turbidity (OPST) standards.

Periodic monitoring of ground water will be initiated in Pulinkudi and Mulloor to check the incidence of salt-water intrusion due to the dredging, if any. Ground water quality monitoring will commence one week prior to start of dredging.

Submarine conditions during the dredging period would be inspected by divers and a photographic / videographic record would be maintained.

Prior to the commencement of dredging, a Dredging Management Programme will be prepared and implemented.

### **Construction of Cargo Berths and Container Stacking Area**

The construction of cargo berths and container stacking area would result in impacts on air quality and noise. The following measures would be adhered to mitigate the impacts:

The emissions from diesel driven vehicles, construction equipment, machinery, dozers, etc. will conform to the emission norms stipulated by the Kerala State Pollution Control Board / CPCB / MoEF. All construction equipments will have valid Pollution Under Control Certificates, which will be revalidated every month.

The construction equipment deployed would be provided with suitable mufflers / enclosures to reduce noise levels. Further, construction workers who are likely to be exposed to high noise levels beyond threshold limits will be provided with protective gears like earplugs, muffs, etc. Also, rotation of construction personnel will be considered.

The equipment deployed for construction will have appropriate monitoring and control facilities, which will be functional all throughout the operations.

During the movement of vehicles on the unpaved roads in the construction areas, water will be sprinkled to minimise suspension of dust.

Water will be sourced from Vellayani Lake and no bore wells will be dug.

## Quarrying

The construction of breakwater would require large volume of rock, which will be quarried. To mitigate the impacts the following are proposed:

The quarrying will be done from approved quarries to minimise impacts.

The quarry operations will be restricted to daytime to reduce the impacts from increased noise and will be minimised to reach the threshold levels stipulated by CPCB at the nearest habitations.

Ambient air quality monitoring will be carried out once in a month in and around the quarry sites. Based on the results, the quarrying operations will be accordingly regulated.

It will be ensured that the noise level prescribed by the CPCB for the day / night-time at the nearest habitation to the quarry site is not exceeded during quarrying. The personnel who are likely to get exposed to noise levels beyond threshold limits will be provided with protective gears like earplugs, muffs, etc. Rotation of personnel would also be considered. Ambient noise levels will be monitored twice in a month.

## Transportation of Construction Material

The measures proposed to be adopted to mitigate impacts from transportation of construction material are as follows:

Traffic density studies will be carried out along the access roads to assess the current traffic density and plan the trips to reduce congestion as well as the risk of accidents from transportation of construction material.

The proposed routes for transportation of construction material will be decided taking into account the traffic on the existing road network i.e. on NH 47 and access road to the project site via Mukkola. The movement of construction material to the project site will be regulated to minimise congestion.

The construction material movement will be planned during non-peak hours, if possible, to reduce traffic congestion from increased traffic during transportation to the project site.

The proposed road links would be constructed before development of Port to minimise impacts from transportation of construction materials.

The exhaust emissions from all transportation vehicles will conform to the norms stipulated by the Kerala State Pollution Control Committee/ CPCB/ MoEF and will have valid Pollution Under Control Certificates which will be revalidated every month.

The noise emissions from all transportation vehicles will conform to the norms stipulated by the Kerala State Pollution Control Board/ CPCB/ MoEF.

The proposed vehicular movements will be regulated such that noise levels generated from transportation will be minimised to the threshold noise levels stipulated by Central Pollution Control Board (CPCB) for daytime at the nearest habitations.

The construction material will be brought in covered trucks to minimise air borne (or suspension of) particulates and spills.

### **Construction of Road / Rail Linkage**

To mitigate the impacts from construction of road / rail linkage, the following are proposed to be adopted:

Prior to construction, the landowners whose land might have to be acquired will be suitably compensated as per the prevailing market value to mitigate the social impacts.

Water tankers with suitable sprinkling arrangement will be deployed to suppress fugitive dust, suspended during construction, along the unpaved portions.

The emissions from diesel driven construction equipments, machinery, dozers, etc. will conform to the emission norms stipulated by the Kerala State Pollution Control Board / CPCB / MoEF and will have valid Pollution Under Control Certificates which will be revalidated every month.

The noise levels generated by construction activities and equipment will be minimised such that the threshold noise levels stipulated by CPCB for daytime are not exceeded at the nearby villages. The construction equipment deployed would be provided with suitable mufflers / enclosures to reduce noise levels.

### **Laying of Water Pipeline**

The measures proposed to be adopted to mitigate impacts from laying of pipeline are as follows:

Prior to construction of pipeline, the landowners whose land will be temporarily acquired will be suitably compensated as per the prevailing market value to mitigate the social impacts.

The pipeline alignment will be demarcated on the ground and display / signboards will be installed indicating the construction and installation of pipeline. The signboards will be both in Malayalam and other vernacular language.

Care will be taken not to disturb any existing utilities, if any detected, during the construction of pipeline. The same will be restored, if unavoidable.

Mechanised pipeline construction equipment will be deployed so that the whole construction activities are completed as fast as possible. This would prevent resentment and unrest in the local population due to prolonged construction and disturbance thereof.

It will be ensured that the noise level prescribed by the CPCB for the day / night-time at the nearest habitations is not exceeded during construction. The construction equipment deployed would be provided with suitable mufflers / enclosures to reduce noise levels. Further, construction workers who are likely to be exposed to high noise levels beyond threshold limits will be provided with protective gears like earplugs, muffs etc. Also, rotation of construction personnel will be considered.

### **Construction Yards**

The measures proposed to be adopted to mitigate impacts from construction yards are as follows:

Water tankers with suitable sprinkling arrangement will be deployed to suppress airborne dust in the construction yards and from movement of construction equipment.

Run-offs from construction yards will not be allowed to drain into the sea and would be collected and stored for future use, as may be applicable.

### **Hazardous Material Storage**

During construction there will be requirement of hazardous materials such as weld gases, fuels (diesel / petrol), lubricants, etc. To minimise the accidental risks from these hazardous material storage and handling, the following are proposed:

Material such as welding gas, fuel for operation of tugs, barges, paints, etc. will be stored in designated places as per the norms specified for Industrial Safety.

The storage areas will be fenced / barricaded in order to restrict the movement of the local communities / grazing cattle.

Extreme precaution will be taken to avoid spillage or leakage of diesel, oils and lubes. To reduce the impacts from spills or leaks occur during fuel loading / unloading, the fuelling operations will be done only at designated and paved surfaces in the construction yard. Spills / leaks, if any, will be recovered.

## **Worker Camps**

There will be a large-scale requirement of skilled and unskilled labours during the development phase of the Vizhinjam Port. Majority of the labourers will be sub-contracted. The construction period will span around 24 months and worker camps will be set up for the unskilled labourers in the vicinity of the proposed Port site. The following aspects would be taken into consideration before setting up the worker camps:

The worker camps will not be set-up close to Vizhinjam village.

The camps will be adequately equipped with all the necessary facilities / amenities such as water supply, power supply, wastewater collection, solid waste collection and sanitation.

The domestic wastes generated from the camps will be disposed at approved disposal sites.

## **Induced Development**

The development phase of the Port will result in induced development through development of slums, makeshift commercial establishments indirectly affecting the neighbouring communities and also contributing to the haphazard growth. As development of Port is proposed as an integral part of Thiruvananthapuram Regional Programme, the regional planning authorities should prevent any unplanned growth by drafting developmental controls and regulate / implement / enforce the same to preclude / minimise impacts from induced development.

## **Mitigation Measures - Operation Phase**

The Port is planned as a Container Transshipment Hub / Port. The other cargo will be general / break bulk cargo. As the proposed cargo to be handled is a clean cargo, no significant impacts are envisaged. However, aqueous discharges and inland cargo movement will result in impacts.

## **Port Operations**

### **Aqueous Discharges**

Aqueous discharges resulting in marine pollution in the harbour basin would occur from the following:

- Operations on the quay areas
- Cargo storage areas
- Wastewater and sewage
- Runoffs containing oil spills
- Ship wastes and bilge water
- Sewage from nearby areas
- Accidental cargo spills.

The measures proposed to be adopted to mitigate the impacts from the discharge of sewage, ship waste, oil spills, runoffs from operational areas, etc. are as follows:

All the operational areas will be connected with a network of liquid waste collection drains comprising of storm water, oily wastes and sewage collection pipelines.

The berth and terminals will be designed sloping landward for collection of the runoffs into the sewage collection network.

Oily wastes which are generated from the mechanical areas of the port will be collected in the effluent network and further treated.

Ships / vessels calling at the Port would be prohibited from dumping the wastes / bilge water during the berthing period.

Port would be equipped with all modern pollution control mechanism to contain the marine pollution from the port operational areas. Pollution control facilities would be designed with a possibility of recycling the wastes especially the treated effluents.

### **Cargo Handling**

During the handling, loading and unloading operations, of various types of cargoes there is a significant increase in air pollution and noise levels. In addition to these impacts, in the event of accidental spills, impacts are envisaged on seawater and sediment quality. To mitigate these impacts, measures proposed to be adopted are discussed in the following paragraphs:

The cargo handling equipment such as quay / mobile cranes, RTG, forklifts, trailers, etc., particularly pneumatic, would be provided with noise attenuation measures such as providing mufflers / enclosures.

It would be ensured that the exhaust emissions from cargo handling equipment such as mobile cranes, prime movers, forklifts, trailers, etc. meet the stipulated norms to reduce air pollution.

Spills occurring from leaky containers and bagged general cargo, resulting in air and water pollution, will be recovered.

### **Maintenance Dredging**

Based on the prevailing littoral drift and consequential sediment transport, which is estimated to be insignificant and presence of natural water depths in most part of the harbour, it is expected that there will be no requirement for maintenance dredging in the Approach Channel (Inner and Outer Navigation Channel), Turning Circle, Berthing Areas. In case maintenance dredging is required, the following measures will be adopted to minimise the impacts:

The maintenance-dredged material during the initial phase would be used for reclamation for the next phase development after analysing the dredged material for pollutant levels.

The excess maintenance dredged material not used for reclamation or maintenance dredged material after the final phase development of Port would be disposed at designated spoil grounds.

### **Inland Cargo Movement**

If the proposed road / rail links are developed before commencement of port operations, it would mitigate the impacts from inland cargo movement to a significant extent compared to the transportation of cargo along the existing road networks. The measures to be adopted for mitigating the impacts are as follows:

Traffic density studies along the existing road network covering all the roads leading to Vizhinjam Port.

The proposed access road from north of Port traverses through Vizhinjam and Mukkola. The proposed access road from south of Port traverses through east of Adimalathurai village. Keeping this in view, patrolling needs to be carried out to check for unauthorised parking with close co-operation of the local authorities.

Avenue plantation would be developed, along the access roads, to reduce the impacts of air and noise pollution on the adjoining villages. This activity would be taken up during the developmental phase of the Port and once the operations start there would be a good greenbelt in place to improve the air quality and attenuate the excess noise levels due to the cargo movement.

All the vehicles involved in transshipment of cargo, susceptible to be air borne or liable for fugitive suspension, would be covered adequately with tarpaulins in order to protect the road users from the wind blown dust.

The vehicles involved in transportation would be checked periodically to ensure that emissions are within the permissible limits.

The port vehicles that are involved in the cargo transshipment will have valid Pollution Under Control (PUC) Certificates.

### **Solid Waste Management**

As solid waste disposal is not being currently practised, Vizhinjam and its coastal areas are susceptible to pollution. The site already identified by Thiruvananthapuram Corporation and acquired by Vizhinjam Grama Panchayat for solid waste disposal is shown in **Figure A4.01**. This site is about 3 km from the proposed Port site and solid wastes generated during Port operations are proposed to be disposed at this site. The solid wastes



generated would be segregated as bio-degradable and non-degradable. It would be attempted to recycle the non-degrading wastes.

### **Hazardous Material Management**

Vehicles for transportation of cargo, equipments used in the port for loading and unloading of cargo, vessels calling at the port, etc. will require fuel oils, POL products, lube oils, etc. Bunkering for fuel oil will be provided at the port.

The following sections present a broad hazardous materials management plan for the operation phase of the Vizhinjam Port, which would need to be detailed, to minimise the risks from storage and handling of hazardous materials. The components to be considered in the plan are:

- Screening of the materials
- Hazardous materials management program
- Community involvement and awareness

### **Screening of the Materials**

This is the first step in the hazardous materials management program. The screening will involve formulating hazard materials table, which include substance code, threshold quantity, class, description etc. to produce a summary with the following information:

- Material Quantities (Daily / Weekly / Monthly)
- Characteristics
- Hazard level (low to high)
- Threshold quantity.

### **Hazardous Materials Management Program**

The hazardous materials management program is a comprehensive system that sets out written policies and procedures to implement the program, assigns responsibilities for implementing the program and provides training, monitoring, recording and performance of the system. Also, it provides a system for periodic evaluation such as compliance audits in meeting the objective of the program. The components of the program are:

#### *Management Actions*

The management actions will include monitoring of workers health and safety, training needs, record keeping and reporting.

#### *Preventive Measures*

The objective of the preventive measures is to develop and implement the procedures to prevent accidents in the unforeseen conditions.

### *Emergency Preparedness and Response Plan*

This is one of the important tools in the hazardous materials management program. The plan will include preparedness and responsive principles, communication with local authorities, medical aspects, emergency response, incident reporting and investigation, record keeping and emergency response training.

It is suggested that a detailed hazardous materials management program be prepared and implemented during the operation phase of the Vizhinjam Port.

### **Disaster Management Plan**

The cargo proposed to be handled at Port is mostly non-hazardous in nature. However, to meet any eventuality and to combat hazards from port operations, Disaster Management Plan (DMP) is a pre-requisite. The Disaster Management Plan will list out the necessary Emergency Response Procedures along with an organisational framework. This section presents a broad outline of the plan and a detailed plan would have to be prepared for the operation phase of the port.

### **Emergency Response Procedures for Hazards from Port Operation**

Contingency plans backed up by adequate and well-maintained equipment, detailed procedures and personnel trained are essential in combating various hazards anticipated from the port operations. The Port Developer would prepare a contingency plan broadly covering the following:

A database of the available resources (regional, national and international groups) so that it can be used in contacting the groups involved in disaster management in the event of any spillage depending on the magnitude.

Identification of sites for disposal of contaminated debris.

Identify the specialised equipment and plan for procurement, deployment and maintenance.

Training for the personnel.

Establishment of an authority and framing of responsibilities of individuals in the event of any spills / hazards.

### **Disaster Management Plan for Cyclones**

The Developer of Port will develop a customised DMP to cope during disasters from natural calamities such as cyclones. Proper planning can reduce the potential damage from disasters in terms of losses to human lives, plant / port assets, environmental damage and rehabilitation costs. The DMP will be prepared by the Developer in consultation with the Department of Ports, Government of Kerala.

The main components of the DMP will include the following:

- Pre-Disaster (or Pre-Cyclone) Plan
- On (or During Cyclone) Disaster Plan
- Post (or After Cyclone) Disaster Plan.

### Rough-Weather Status Classification

The rough weather operations will be controlled in three stages:

Green Status – The operations of loading / unloading will be carried out as planned.

Yellow Status – This is an alert stage indicating possibility of rough weather.

Still operations can be continued with all emergency precautions.

Red Status – Emergency situations or rough weather and operation will be suspended. Activities controlled by In-Charge of emergency operations. The vessel will be moved to safe anchorage or will be advised to proceed to sea.

### Organisation Structure

An organisational structure will be developed with various officials of Port designated as various co-ordinators during disaster management. The roles and responsibilities including details of succession chart (second-line) will be defined.

### Communication System

A communication system, with a degree of redundancy, which will be fully functional during a disaster would be provided including standby power arrangement. The communication system will be functioning from the Emergency Control Centre.

### Emergency Control Centre (or Control Room)

An Emergency Control Centre will be established and equipped with all the communication systems at a pre-designated safe place for co-ordination.

### Pre-Cyclone Plan

#### *Pre-Cyclone Measures*

The Port will maintain and exchange information continuously with the local IMD authorities at Thiruvananthapuram for continuous updates of meteorological conditions, in general, and emerging / predicted weather phenomenon such as Cyclones, in particular. Upon issue of a cyclone

warning by the IMD, the Port would immediately initiate the Pre-Cyclone Measures. The Department of Ports and District Collector of Thiruvananthapuram would be informed of the imminent cyclone. All Port officials dealing with operations and disaster management will be informed.

#### *Pre-Cyclone Exercise*

On signaling of a cyclone alert, the Control Room will be manned 24 hours a day for disaster management. The 'Weather Signals' depending on the data available about the cyclone and its threat perception will be informed to all personnel. The cargo handling operations will be regulated as per the rough-weather classification and will be continued with all emergency precautions. The different personnel of Port would assume their roles and responsibilities, as previously identified, for disaster management. The standby arrangement for power supply will be checked. Pre-identified 'Rescue Centres' will be kept in readiness. A pre-alert will be issued regarding suspension of all operations in case of emergency and to await instructions regarding the same. All Port Crafts, Tugs and Ships will be fully secured inside the harbour area. Booms of mobile cranes will be lowered. Communication system including standby arrangement will be tested for working condition. Vehicles involved in rescue operations will be checked for working condition. Port Crafts, Tugs to be engaged in rescue will be kept in readiness. The safety of cargo in the port area will be ensured.

#### During Cyclone Plan

The emergency alarm siren will be raised as per the 'Alarm System'. All personnel will be evacuated except essential operational personnel and personnel dealing with disaster management. The cargo handling operations will be suspended. The vessel will be moved to safe anchorage or will be advised to proceed to sea. The stored cargo will be protected and secured. Power supply will be disconnected and alternative power supply will be restored in essential operational areas. Port Crafts and Tugs will continue to be in readiness for rescue.

#### Post Cyclone Plan

This would be the rescue and rehabilitation stage after passing of the cyclone. The damages would be assessed and rehabilitation work initiated to restore port operations at the earliest. The records of the events during the cyclone will be maintained and reviewed for possible enhancements to the DMP.

#### Training

Periodical training sessions including mock drills will be organised for building awareness and checking effectiveness of the system.

### District Level Emergency Committee

As part of DMP, a District Level Emergency Committee will be set up for major offsite emergencies. This committee would comprise of the following members:

- District Collector, Thiruvananthapuram
- Regional Transport Authority, Thiruvananthapuram
- District Medical Superintendent, Thiruvananthapuram
- Police Department, Vizhinjam and Thiruvananthapuram
- Fire Department, Thiruvananthapuram
- Officials of Vizhinjam Fishery Harbour
- Officer In-Charge of Vizhinjam Port.

### Mutual Aid Scheme

A Mutual Aid Scheme will also be included in the DMP involving ports in the vicinity such as Cochin Port and Tuticorin Port. The arrangements for requesting of services of agencies such as Coast Guard, Navy, Air force of Government of India and Department of Ports of Government of Kerala will be defined.

### **Community Involvement and Awareness**

The nearest settlements to the Port are Vizhinjam, Mulloor and Pulinkudi and it is necessary to appraise the local communities about the activities involved in the development and operation of the project. The following information would be listed in the project site:

- Providing general information on the nature and extent of offsite affects in the event of unforeseen circumstances.

- Details of the safety measures to be adopted in tackling the hazards in the event of any disaster.

- Involving the community members and developing awareness in them regarding emergency preparedness and disaster management.

- Record keeping.

### **Greenbelt Development**

Greenbelt is proposed to be developed to mitigate the impacts and enhance the quality of environment and improve the aesthetics as follows:

- Greenbelt development is proposed along the entire boundary of the Vizhinjam Port. In addition, tree cover will be developed within the port areas wherever feasible.

- The greenbelt width would be varying from 7 to 10 m.

- The greenbelt area is 9.3 ha and 15.51 ha in the Short-Term and Long-Term development, respectively.

The tree species for the greenbelt development would be native species and will be in line with the local ecology.

Possibilities for utilising treated effluent for the greenbelt requirements will be explored thereby contributing to the reduction in water usage.

### **Population Influx Due to Port**

The operation of Port will exert significant changes on the land use pattern in the surroundings through population influx and from induced development resulting in creation of employment potential and development of commercial establishments. This activity if not planned and developed will create chaos affecting the integrity of the port and would not be a sustainable development.

The following measures are / shall be taken into consideration, which will be useful in restricting the development.

As development of Port is proposed as an integral part of Thiruvananthapuram Regional Programme, the regional planning authorities should prevent any unplanned growth by drafting developmental controls and regulate / implement / enforce the same to preclude / minimise impacts from induced development.

The Port Developer, in consultation with the local authorities, would monitor all the developments in and around the Vizhinjam Port.

### **Training of Personnel**

To ensure that the port operates safely and to manage the emergencies, the following is proposed:

The personnel involved in the operation of the port would be trained for identification of various hazards, methods to combat, responsiveness to emergency preparedness, etc.

Further, the personnel involved in handling of cargo would be trained for handling oil / chemicals spills, fire fighting methods, etc.

### **Environmental Monitoring**

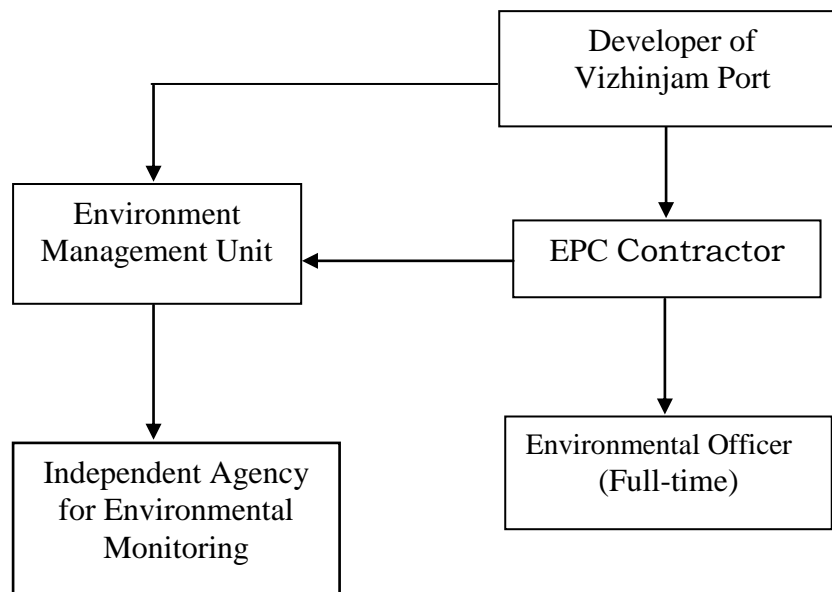
The mitigation measures suggested in the preceding sections require environmental monitoring of air quality, noise levels, seawater, sediment, groundwater quality during the development and operation phase of the Vizhinjam Port. Offshore and onshore environmental surveys will be carried out to meet the monitoring requirements. The monitoring requirements would be carried out through sub-contracting the assignment to an approved agency with capabilities to undertake monitoring of onshore and offshore environmental surveys.

The environmental attributes to be monitored during the construction and operation phase of the Vizhinjam Port, specific description along with the

technical details of the environmental monitoring including the monitoring parameters, methodology, sampling locations and frequency of monitoring are presented A.4.6.

### Institutional Mechanism

The effective implementation and close supervision of the environmental monitoring programme, as specified in the A.4.6, to negate the environmental impacts which are likely to arise due to the development and operation phase of Port could be achieved only through a suitable institutional mechanism. A broad institutional mechanism responsible for the implementation of the mitigation measures is presented below:



The implementation of the Environmental Monitoring Programme (EMP) will be the responsibility of the proposed Developer of Vizhinjam Port. The Port Developer would see that the environmental monitoring works are included in the EPC contracts. The EPC contractor would appoint a full-time Environmental Officer to monitor the mitigation measures and keep a daily record of the same.

The responsibilities of the Environmental Officer would include day to day recording of mitigation measures; planning and execution of environmental monitoring; review of the report submitted by the monitoring agencies; comparing the results with baseline; checking the level of compliance of results with respective standards; recommending corrective measures, if necessitated; preparation of monthly progress reports and documenting all the activities.

The Environmental Officer of the EPC Contractor would report the monitoring programme to the Environmental Management Unit of the Port Developer.

The Environment Management Unit of the Port Developer would also carry out environmental monitoring on random basis through an independent agency, other than the EPC contractor's agency, to check the monitoring results being reported. The Port Developer would appoint advisors / experts, if required, to review the monitoring results and provide recommendations during the construction and operation phases.

### Reporting Procedures

The Environmental Officer of the EPC Contractor will supervise all the environmental monitoring operations and document the test results on a monthly basis in the form of progress reports. The report would include results of the environmental monitoring programs, actions carried out with respect to the results of monitoring as prepared and implemented. The reports would be submitted to the Port Developer, which the Developer in turn would submit to KSPCB.

### Environmental Monitoring Programme

#### Construction Phase

The environmental attributes to be monitored during the development phase should cover both the marine and terrestrial environments. The monitoring programme for the construction phase is presented in **Table 0-1 to Table 0-6**.

**Table 0-1: Marine Water Quality Monitoring during Construction Phase**

1.	<b>Objective of Monitoring</b>	The objective of marine water quality monitoring is to list out the changes in the water quality during the construction of breakwaters and the capital dredging and use the results in planning the respective operations.
2.	<b>Parameters to be monitored</b>	<u>Physical Properties</u> : pH, EC, Salinity, Temp , Turbidity <u>Chemical Properties</u> : DO, BOD, COD, Oil & Grease, Nutrients, Sulphates, Chlorides <u>Heavy Metals</u> : Fe, Zn, Mg, Mn, Cd, Cr., Hg <u>Bacteriological parameters</u> : Coliform count <u>Marine Biology</u> : Phytoplankton and Zooplankton
3.	<b>Sampling Methodology</b>	Marine Water: Marine Water should be collected using a bottom sampler (Niskin Sampler). Onsite Tests such as pH, DO, Temp, EC should be recorded immediately after the sample collection. The samples intended for chemical, Heavy metals and Bacteriological analysis should be suitably preserved with necessary reagents. The plankton samples should be collected using plankton net of dia. of 0.35m, No.25 mesh size 63 µ. The plankton net should be towed for 15 minutes at the sampling locations for collection of samples for estimation of Phytoplankton



		and Zooplankton.
4.	<b>No. of locations</b>	Three locations:  Vizhinjam Fishery Harbour Near Breakwaters Approach Channel
5.	<b>Frequency of Measurements</b>	The samples should be collected on a weekly basis commencing one week prior to commencement of construction and spread over for the entire construction period.
6.	<b>Compliance</b>	The tested samples should be compared with the Primary water quality standards framed by Central Pollution Control Board and also with other relevant guidelines to assess the compliance during the entire phase of the construction activities.

**Table 0-2: Continuous Monitoring of Turbidity during Construction Phase**

1.	<b>Objective</b>	Turbidity is an important indicator to predict the impacts on the marine environment. Therefore controlling Turbidity during the capital dredging and breakwater construction will largely mitigate the impacts on the marine aquatic communities.
2.	<b>Parameters to be monitored</b>	Turbidity , TSS , TDS
3.	<b>Sampling Methodology</b>	The samples for checking Turbidity should be collected using a bottom sampler (Niskin Sampler) from the sampling locations. Immediately the samples should be tested for Temperature, Turbidity, TSS, TDS
4.	<b>No. of locations</b>	Three Locations:  Near Breakwaters Reclamation Areas Approach Channel
5.	<b>Frequency of Measurements</b>	Three times in a day to cover the complete the working shift
6.	<b>Compliance</b>	Currently there are no specific guidelines for measuring Turbidity in India. OPST standards should be taken as the guideline for limiting the Turbidity. However in the event the OPST standards are not achievable then they should be relaxed with the opinion of expert's i.e. Marine Biological Specialist keeping in view of the baseline data.  First implement cessation of operations after every four hours and stop for two hours  If standards are not achievable, provide silt screens in

		the immediate vicinity of the work area to contain the spread of Turbidity to other areas.
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Table 0-3: Sediment Quality Monitoring during Construction Phase

1.	<b>Objective of Monitoring</b>	The objective of the sediment quality monitoring is to list out the changes in the sediment quality during the construction of breakwaters and the capital dredging and use the results in planning the respective operations.
2.	<b>Parameters to be monitored</b>	<u>Physico-Chemical Properties</u> : pH, Organic Matter, Nutrients , Oil and Grease <u>Heavy Metals</u> : Fe, Mn, Cd, Ni, Cr, Hg, Zn and Pb <u>Benthic Communities</u> : Macro & Micro Benthic Flora and Fauna
3.	<b>Sampling Methodology</b>	Marine Sediment should be collected using a Peterson's Grab Sampler. The collected sediment should be segregated on the site for analysis of Physico-chemical parameters, Heavy Metals and Benthic communities. The Sediment Sample for Benthic communities should be subjected to sieving to record the macro benthos and there after the samples should be preserved with Rose Bengal and Formalin Solution for further analysis of Benthic communities.
4.	<b>No. of locations</b>	Three Locations:  Vizhinjam Fishery Harbour Near Breakwaters Approach Channel
5.	<b>Frequency of Measurements</b>	The samples should be collected on a weekly basis commencing one week prior to commencement of construction and spread over for the entire development period.
6.	<b>Compliance</b>	At present there are no standards for sediment quality in India. However, there should not be marked variations in the tested sediment characteristics during the entire construction phase.

Table 0-4: Ambient Air Quality Monitoring during Construction Phase

1.	<b>Objective</b>	The ambient air quality monitoring should be carried out with an objective to plan the activities involved in the development phase in line with the ambient air quality with an aim to protect the adjoining communities from the ill effects of air pollution.
2.	<b>Parameters to be monitored</b>	a) Suspended Particulate Matter ( SPM) b) Respirable Particulate Matter ( RPM)

		c) Sulphur Dioxide ( SO <sub>2</sub> ) d) Oxides of Nitrogen ( NO <sub>x</sub> ) e) Carbon Monoxide ( CO ) f) Hydrocarbons ( HC )
3.	<b>Sampling Methodology</b>	The air quality monitoring should be conducted using High Volume Samplers. CO will be collected by Peroxide tube method or by portable CO meter. HC should be collected in Mylar Bags.
4.	<b>No. of locations</b>	Three Locations: Vizhinjam Mukkola Balaramapuram
5.	<b>Frequency of Measurements</b>	Once in a month @ two days per monitoring
6.	<b>Compliance</b>	The monitoring results should be compared with the National Ambient Air Quality Standards.

Table 0-5: Noise Level Monitoring during Construction Phase

1.	<b>Objective</b>	The objective of noise level monitoring is to use check the noise levels in the vicinity of the Port against the background levels and the plan the activities accordingly with out affecting the communities in the surroundings of the Vizhinjam Port.
2.	<b>Parameters to be monitored</b>	Hourly noise levels for 24 hours
3.	<b>Sampling Methodology</b>	The noise levels should be recorded using a portable hand held noise level meter.
4.	<b>No. of locations</b>	Three Locations:  Vizhinjam Mukkola Balaramapuram
5.	<b>Frequency of Measurements</b>	Once in a fortnight
6.	<b>Compliance</b>	The monitoring results should be compared with the National Ambient Noise Quality Standards.

Table 0-6: Ground Water Quality Monitoring during Construction Phase

1.	<b>Objective</b>	The main objective of the Ground Water Quality monitoring is to check the incidence of salt-water intrusion into the ground water aquifers due to the capital dredging of the Harbour areas.
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2.	<b>Parameters to be monitored</b>	<u>Physical Parameters</u> : pH, Temperature, Conductivity, <u>Chemical Parameters</u> : BOD, COD, Alkalinity, TDS, Hardness, Cl, Sulphates, Nitrates, Silica, Calcium, Magnesium, Sodium, Potassium, Oil and Grease, Phenolic compounds. <u>Heavy Metals</u> : As, Hg, Fe, Pb, Cd, Cr, Zn, Se <u>Bacteriological Parameters</u> : Coliform counts
3.	<b>Sampling Methodology</b>	Water samples need to be collected in Polyethylene containers (about 1000 ml). The samples for chemical, heavy metals and bacteriological analysis should be segregated during the time of analysis
4.	<b>No. of locations</b>	Three Locations:  Vizhinjam Mulloor Pullinkudi
5.	<b>Frequency of Measurements</b>	Once in a week
6	<b>Compliance</b>	The monitoring results should confirm with IS 10500 Drinking Water Standards.

### Operation Phase

The attributes to be monitored as a part of the mitigation measures are Air Quality, Noise Levels, Marine Water Quality and Sediment. The monitoring programme for the operation phase is presented in **Table 0-7 to Table 0-11**.

**Table 0-7: Marine Water Quality Monitoring during Operation Phase**

1.	<b>Objective of Monitoring</b>	The objective of marine water quality monitoring is to list out the changes in the water quality during the operation phase of the Portend use the results in enhancing the pollution control measures.
2.	<b>Parameters to be monitored</b>	<u>Physical Properties</u> : pH, EC, Salinity, Temp , Turbidity <u>Chemical Properties</u> : DO, BOD, COD, Oil & Grease, Nutrients, Sulphates, Chlorides <u>Heavy Metals</u> : Fe, Zn. Mg, Mn, Cd, Cr., Hg <u>Bacteriological parameters</u> : Coliform count <u>Marine Biology</u> : Phytoplankton and Zooplankton
3.	<b>Sampling Methodology</b>	Marine Water should be collected using a bottom sampler (Niskin Sampler). Onsite Tests such as pH, DO, Temp, EC should be recorded immediately after the sample collection. The samples intended for chemical, heavy metals and bacteriological analysis should be suitably preserved with necessary reagents. The plankton samples should be collected using plankton net of dia. of 0.35m, No.25 mesh size 63 $\mu$ . The plankton net should be towed for 15 minutes at the sampling locations for collection of

		samples for estimation of Phytoplankton and Zooplankton.
4.	<b>No. of locations</b>	Four Locations: Harbour basin Approach Channel Berthing Areas Fishery Harbour
5.	<b>Frequency of Measurements</b>	The samples should be collected on a monthly basis commencing one month prior to commencement of commissioning of the port and spread over for the entire project life cycle.
6.	<b>Compliance</b>	The tested samples should be compared with the Primary water quality standards framed by Central Pollution Control Board and also with other relevant guidelines to assess the compliance during the entire phase of the construction activities.

Table 0-8: Sediment Quality Monitoring during Operation Phase

1.	<b>Objective of Monitoring</b>	The objective of the sediment quality monitoring is to list out the changes in the sediment quality during Operation phase of the Portend to asses the quality with the background levels.
2.	<b>Parameters to be monitored</b>	<u>Physico-Chemical Properties</u> : pH, Organic Matter, Nutrients , Oil and Grease <u>Heavy Metals</u> : Fe, Mn, Cd, Ni, Cr, Hg, Zn and Pb <u>Benthic Communities</u> : Macro & Micro Benthic Flora and Fauna
3.	<b>Sampling Methodology</b>	Marine Sediment should be collected using a Peterson's Grab Sampler. The collected sediment should be segregated on the site for analysis of Physico-chemical parameters, Heavy Metals and Benthic communities. The Sediment Sample for Benthic communities should be subjected to sieving to record the macro benthos and there after the samples should be preserved with Rose Bengal and Formalin Solution for further analysis of Benthic communities.
4.	<b>No. of locations</b>	Three Locations:  Harbour basin Port Entrance Channel Near Breakwaters
5.	<b>Frequency of Measurements</b>	The samples should be collected on a monthly basis commencing one month prior to commencement of commissioning of the port and spread over for the entire project life cycle.

6.	<b>Compliance</b>	The sediment quality may be compared with the baseline conditions to assess the conditions during the operation phase.
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**Table 0-9: Ambient Air Quality Monitoring during Operation Phase**

1.	<b>Objective</b>	The ambient air quality monitoring should be carried out with an objective to keep a record of air quality in order to assess the changes in the ambient air quality due to the various port operations. The results shall be compared with the background levels and the same will be used in planning the operations of the port.
2.	<b>Parameters to be monitored</b>	a) Suspended Particulate Matter ( SPM) b) Respirable Particulate Matter ( RPM) c) Sulphur Dioxide ( SO <sub>2</sub> ) d) Oxides of Nitrogen ( NO <sub>x</sub> ) e) Carbon Monoxide ( CO) f) Hydrocarbons ( HC )
3.	<b>Sampling Methodology</b>	The air quality monitoring should be conducted using High Volume Samplers. CO will be collected by Peroxide tube method or by portable CO meter. HC should be collected in Mylar Bags.
4.	<b>No. of locations</b>	Five Locations:  Cargo handling areas Vizhinjam Mukkola Pulinkudi Balaramapuram
5.	<b>Frequency of Measurements</b>	Once in a week @ two days per monitoring
6.	<b>Compliance</b>	The monitoring results should be compared with the National Ambient Air Quality Standards.

**Table 0-10: Noise Level Monitoring during Operation Phase**

1.	<b>Objective</b>	The noise level monitoring should be carried out with an objective to list the changes in the background noise levels due to the various port operations. The results shall be compared with the background levels and the same will be used in planning the operations of the port.
2.	<b>Parameters to be monitored</b>	Hourly noise levels for 24 hours
	<b>Sampling Methodology</b>	The noise levels should be recorded using a portable hand held noise level meter.
4.	<b>No. of locations</b>	Five Locations: Cargo handling areas Vizhinjam

		Mukkola Pulinkudi Balaramapuram
5.	<b>Frequency of Measurements</b>	Once in a week
6.	<b>Compliance</b>	The monitoring results should be compared with the National Ambient Noise Quality Standards.

**Table 0-11: Ground Water Quality Monitoring during Operation Phase**

1.	<b>Objective</b>	The main objective of the Ground Water Quality monitoring to check the incidence of salt-water intrusion into the ground water aquifers and also the changes in water quality due to the various waste discharges into the harbour basin.
2.	<b>Parameters to be monitored</b>	<u>Physical Parameters</u> : pH, Temperature, Conductivity, <u>Chemical Parameters</u> : BOD, COD, Alkalinity, TDS, Hardness, Cl, Sulphates, Nitrates, Silica, Calcium, Magnesium, Sodium, Potassium, Oil and Grease, Phenolic compounds. <u>Heavy Metals</u> : As, Hg, Fe, Pb, Cd, Cr, Zn, Se <u>Bacteriological Parameters</u> : Coliform counts
3.	<b>Sampling Methodology</b>	Water samples need to be collected in Polyethylene containers (about 1000 ml). The samples for chemical, heavy metals and bacteriological analysis should be segregated during the time of analysis
4.	<b>No. of locations</b>	Two Locations: Vizhinjam Mulloor
5.	<b>Frequency of Measurements</b>	Once in a month
6.	<b>Compliance</b>	The monitoring results should confirm with IS 10500 Drinking Water Standards.

**APPENDIX 5  
PORT PERFORMANCE PARAMETERS**

The Licensee shall comply with the following port performance parameters:

1. Average pre-berthing time: For container ships it shall be “on arrival”
2. Average waiting time to service time ratio: less than 10%
3. Average berth occupancy shall be as follows:

No. of Berths	Berth Occupancy (%)
1	40
2	50
3	55
4	60
5	65
6 or more	70

4. Quay Capacity: An average number of 1400 TEUs/m of quay length per annum shall be achieved by the end of Phase I or 5 years from the Date of Commercial Operation, whichever is earlier. This shall be increased and benchmarked to be at par with the best transshipment hubs with average number of 1800 TEUs/m of quay length per annum by the end of Phase II or 10 years from the COD, whichever is earlier.



## Appendix 6

### PROJECT FACILITIES AND SERVICES

#### **Project Description**

Development and Management of International Deepwater Seaport and Container Transshipment Terminal at Vizhinjam is planned to be developed in a phased manner. The facility is proposed to handle 5.3 million TEUs per annum as per the master plan enclosed (**Figure FD0709**).

#### **Development by Licensee**

Licensee shall develop the port facilities, for meeting the objectives of each phase of development. The phase wise objective and requirement of facilities are indicated in the enclosures A.6.1 to A.6.5. The development shall include, but not limited to, the following:

##### **a) Berths**

Adequate berth length shall be provided for efficient cargo handling from mainline vessel and feeders. However, the berth shall be designed uniformly to provide flexibility in the operation and shifting of cranes from one berth to other.

##### **b) Berth equipment**

Adequate berth equipments such as quay cranes shall be provided for efficient handling of required cargo volume.

##### **c) Reclamation**

Backup area required for cargo storage, port buildings, roads etc. shall be reclaimed from the sea by dredging suitable reclamation material.

##### **d) Backup area development**

Adequate area required for the cargo storage/cargo movement shall be developed. Container yard including reefer points, parking areas, port buildings, CFS etc. shall be developed.

##### **e) Backup area equipments**

Back up area equipment for efficient cargo handling such as RTGs, reach stackers, top lift trucks, tractors, trailers shall be provided.

##### **f) Breakwaters**

Breakwater, which would give required tranquil harbour conditions for handling container shall be constructed. The breakwaters also provide protection to the reclaimed land.

**g) Navigation channel**

Approach channel adequate for the easy/safe movement of design vessels shall be provided for safe navigation to / within the port as per PIANC guidelines and if required, confirmed by navigational simulation studies.

**h) Navigation aids**

Navigational aids such as approach channel & turning circle, marker buoys, breakwater lights, front leading light towers, rear leading light towers, etc. as per IALA guidelines suitable for making the port round the clock operable.

**i) Port crafts**

Adequate port crafts for handling vessels in the ports shall be provided as follows:

- Tugs
- Pilot launchers
- Survey launchers
- Bilge / bunkering barges

**j) Port buildings**

Port buildings such as administrative buildings, canteen, sub-station, workshops, container freight station, sewage treatment unit, water treatment unit, underground sump, overhead tank etc. shall be developed for efficient operations of cargo.

**k) EDI / computer communication**

Automated operation system for the entire container terminal shall be suitably designed / procured and provided for operating the port with state-of-art technology.

This system shall provide information online with suitable number of terminals for planning / import, export, delivery, transfer to CFS, information to users / Licensor, updation of container movement within the port, to/fro to the port, shall be captured by the system with very little human interference.

**l) Security systems (CSI, ISPS, etc.)**

Adequate security systems as per latest ISPS guidelines shall be developed.

**m) Internal road**

Internal system of roads shall be developed from the port boundary connecting gate house, port buildings, storage areas and strategic points of cargo movement.

**n) Internal rail network**

An internal rail network system connecting strategic points of cargo movement to the rail connectivity shall be provided.

**o) Electrical distribution, backup systems**

The Licensee shall put up a sub-station and associated cabling network and provide ancillary equipment as necessary for meeting power requirements of the port

**p) Lighting**

Licensee shall provide all general lighting and other lighting arrangements in the port such as:

General lighting level at traffic and storage areas, minimum 50 Lux.

In areas where marker signs etc. on containers or supporting documents shall be read, the level shall be 200 Lux. This can be achieved by general lighting (e.g. in gate areas) or by lights mounted on the truck or other vehicle.

Container cranes, yard gantries etc. will normally be furnished with strong light fixtures lighting the work area and containers being handled. Here the lighting level shall be 200 Lux.

**q) Water treatment, supply and distribution system**

The Licensee shall put up necessary underground storage facility, treatment plant, overhead tank, necessary distribution system for adequate water supply to meet the water requirement inside the port.

**r) Storm water collection, treatment and disposal**

The Licensee shall provide its own arrangement for surface water run-off in accordance with environmental regulations. In order to avoid oil contamination of the storm water led to the harbour basin, the following design features will be applied:

Fuel tanks will be surrounded by a spill basin. Storm water collected inside the basin will only be led to the storm water drains after inspection and testing against oil content. If it is contaminated it will be treated accordingly.

Fuel loading areas and refuelling bays for equipment will be furnished with fuel spill monitoring pits, from where clean storm water can be led to the drains and contaminated water to the treatment plant.

RTG and other equipment washing areas will be provided with drain systems leading storm water to the ordinary storm water canals when no equipment washing takes place and to the oily waste water tank during washing.

**s) Waste collection, treatment and disposal system**

Licensee shall provide efficient sewage, oily waste water, and ordinary sewage water disposal system and install own sewage water treatment system.

All the pollution control and bilge water reception facility as per MARPOL 73/78 shall be provided by the Licensee.

Licensee shall provide reception facilities for receiving and treating both solid waste and wastewater from the ships in the port.

**t) Fire fighting systems**

The Licensee shall plan and provide for adequate and appropriate fire fighting equipment, fire hydrants etc., at the berths and in the back up area, keeping in view the need for maximizing dock safety and compliance with the prescribed regulations.

**u) Bunkering and fuel supply**

The Licensee to provide / outsource suitable facilities for bunkering of the vessels calling at the port.

**v) Development of rail transit yard**

Licensors shall provide a vacant land of about 15 hectares of area with railway sidings totaling approximately 2 km near Balarampuram for transit storage of export/import of hinterland containers.

**w) Greenbelt**

Greenbelt is to be developed to mitigate the impacts and enhance the quality of environment and improve the aesthetics. Greenbelt shall be along the entire boundary of the port. In addition, tree cover shall be developed within the port area, wherever feasible.

**x) General Cargo Berth**

General cargo will be handled at the feeder berths during Phase IA, IB and II. Adequate general cargo berths with suitable handling equipments shall be provided in Phase III.

**y) Cruise Terminal**

Cruise vessels shall be handled at the initial stages at the container berths with nominal ailed tourist facilities. However, in each phase of development space shall be allocated for locating an exclusive cruise terminal and full scale allied tourist facilities. The development of this shall be taken up based on the potential.

## ENCLOSURE A.6.1

## Facilities to be available at the issuance of Completion Certificate

Objective	At the issuance of the Completion Certificate, the port shall have been developed to handle a rated capacity of 1.30 million TEUs per annum of containers and 0.5 MTPA of General cargo. Following are the critical developments required to be developed by Licensee to meet the objective
Layout	<b>Bidder to furnish the layout (Refer Figure FD0711 (a) Indicative)</b>
Berth i) Vessel handling capacity 13. Mainline vessel 14. Feeder vessel 15. General Cargo ii) Berths 13. Total berth length 14. Mainline berths 15. Feeder berths 16. General Cargo	8000 TEU 1000 TEU 20,000 DWT  900 m 2 nos. 1 no. Nil (GC to be handled at Feeder berths)
Berth equipment - Quay cranes i. Post Panamax cranes (50T) ii. Panamax cranes (40T)	8 nos. 3 nos.
Back-up area • Area to be reclaimed • Area to be developed	82 Ha 17 Ha
Backup area equipment 1. RTGs (40 - 50 T) 2. Reach stackers 3. Top lift trucks 4. Tractors 5. Trailors	25 nos. 2 nos. 7 nos. 38 nos. 38 nos.
Breakwaters a) North breakwater b) South breakwater c) Temporary breakwater	3200 m - 750 m
Navigation Channel (a) Approach channel width (b) Approach channel depth (outer)	320 m (-) 17.4 m CD

(c) Approach channel depth (inner)	(-) 16.7 m CD
(d) Turning circle diameter	555 m
(e) Turning circle depth	(-) 16.7 m CD
Navigation aids	
(a) FLLT	1 no.
(b) RLLT	1 no.
(c) Turning circle buoy	2 nos.
(d) Channel buoy	2 nos.
(e) Marker buoy	2 nos.
(f) Breakwater lights	2 nos.
Port crafts	
A. Tugs (40 T)	1 no.
B. Tugs (20 T)	1 no.
C. Launches	1 no.
D. Barges (bilge)	1 no.
Port buildings	6000 sq. m
Container Freight Station	1.8 Ha
EDI / computer communication	Most modern computer facilities to automate all operations of the port
Security systems (CSI, ISPS, etc.)	Facilities as per ISPS recommendations
Internal road	Two lane 2.5 Km connecting terminal, buildings and other area
Internal rail network	Not envisaged in this phase
Electrical distribution, backup systems	As required
Lighting	General lighting for entire port and special lighting near cargo handling areas
Water treatment, supply and distribution system	As required
Storm water collection, treatment and disposal	As required
Waste collection, treatment and disposal system	As required
Fire fighting systems	As required

Bunkering and fuel supply	As required
Development of rail transit yard	15 Ha near Balaramapuram Station.
Greenbelt	9.3 Ha
Cruise Terminal	Space for 1 cruise berth and allied tourist facilities

## ENCLOSURE A.6.2

**Facilities to be available at the Completion of Phase I-A**

Objective	During Phase I-A, the port shall be developed to handle a rated capacity of 1.80 million TEUs per annum of containers and 0.6 MTPA of General Cargo. Following are the critical developments required (cumulative facilities) to be developed by Licensee to meet the objective
Layout	Bidder to furnish layout (Refer <b>Figure FD0711 (b) indicative</b> )
Berth a)Vessel handling capacity i)Mainline vessel ii)Feeder vessel iii) General Cargo b) Berths i)Total berth length ii) Mainline berths iii) Feeder berths iv) General Cargo	8000 TEU 1000 TEU 20,000DWT  1245 m 2 nos. 3 nos. Nil (GC to be handled at Feeder berth)
Berth equipments - Quay cranes iii. Post panamax cranes (50 T) iv. Panamax cranes (40 T)	8 nos. 7 nos.
Back-up area • Area to be reclaimed • Area to be developed	82 Ha 17 Ha
Backup area equipments 6. RTGs (40 to 50T) 7. Reach stackers (50 T) 8. Top lift trucks (20 T)	35 nos. 3 nos. 10 nos.

9. Tractors	55 nos.
10. Trailors	55 nos.
Breakwaters	
a) North breakwater	3200 m
b) South breakwater	-
c) Temporary breakwater	750 m
Navigation Channel	
(f) Approach channel width	320 m
(g) Approach channel depth (outer)	(-) 17.4 m CD
(h) Approach channel depth (inner)	(-) 16.7 m CD
(i) Turning circle diameter	555 m
(j) Turning circle depth	(-) 16.7 m CD
Navigation aids	
(g) FLLT	1 no.
(h) RLLT	1 no.
(i) Turning circle buoy	2 nos.
(j) Channel Marker buoy	2 nos.
(k) Breakwater lights	2 nos.
Port crafts	
E. Tugs (40 T)	1 no.
F. Tugs (20 T)	1 no.
G. Launches	1 no.
H. Barges (bilge)	1 no.
Port buildings	6000 sq. m
Container Freight Station	1.8 Ha
EDI / computer communication	Most modern computer facilities to automate all operations of the port
Security systems (CSI, ISPS, etc.)	Facilities as per ISPS recommendations
Internal road	Two lane 2.5 Km connecting terminal, buildings and other area
Internal rail network	Not envisaged in this phase
Electrical distribution, backup systems	As required
Lighting	General lighting for entire port and special lighting near cargo handling areas



Water treatment, supply and distribution system	As required
Storm water collection, treatment and disposal	As required
Waste collection, treatment and disposal system	As required
Fire fighting systems	As required
Bunkering and fuel supply	As required
Development of rail transit yard	15 Ha near Balaramapuram Station.
Greenbelt	9.3 Ha
Cruise Terminal	Space for 1 cruise berth and allied tourist facilities

## ENCLOSURE A.6.3

**Facilities to be made available at the Completion of Phase I-B**

Objective	During Phase I-B, the port shall be developed to handle a rated capacity of 3.00 million TEUs per annum of containers and 0.9 MTPA of General Cargo. Following are the critical developments required (cumulative facilities) to be developed by Licensee to meet the objective
Layout	Bidder to furnish layout (Refer <b>Figure FD0712 indicative</b> )
Berth a)Vessel handling capacity i)Mainline vessel ii)Feeder vessel iii) General Cargo a) Berths i)Total berth length ii) Mainline berths iii) Feeder berths iv) General Cargo	10,000 TEU 1500 TEU 40,000 DWT  1245 m 4 nos. 3 nos. Nil (G.C. to be handled at feeder berths)

Berth equipments - Quay cranes	
a) Post panamax cranes (50 T)	12 nos.
b) Panamax cranes (40 T)	10 nos.
Back-up area	
a) Area to be reclaimed	109 Ha
b) Area to be developed	27 Ha
Backup area equipments	
a) RTGs (40 to 50T)	55 nos.
b) Reach stackers (50 T)	5 nos.
c) Top lift trucks (20 T)	18 nos.
d) Tractors	95 nos.
e) Trailors	95 nos.
Breakwaters	
b) North breakwater	4600 m
c) South breakwater	450 m
d) Temporary breakwater	-
Navigation Channel	
a) Approach channel width	350 m
b) Approach channel depth (outer)	(-) 18.0 m CD
c) Approach channel depth (inner)	(-) 17.3 m CD
d) Turning circle diameter	586 m
e) Turning circle depth	(-) 17.3 m CD
Navigation aids	
g) FLLT	1 no.
h) RLLT	1 no.
i) Turning circle buoy	2 nos.
j) Channel Marker buoy	2 nos.
k) Breakwater lights	4 nos.
Port crafts	
g) Tugs (40 T)	1 no.
h) Tugs (20 T)	1 no.
i) Launches	1 no.
j) Barges(Bilge)	1 no.
Port buildings	14,000 sq. m
Container Freight Station	3.0 ha
EDI / computer communication	Most modern computer facilities to automate all operations of the port
Security systems (CSI, ISPS, etc.)	Facilities as per ISPS recommendations

Internal road	Two lane 3.5 Km connecting terminal, buildings and other area
Internal rail network	Not envisaged in this phase
Electrical distribution, backup systems	As required
Lighting	General lighting for entire port and special lighting near cargo handling areas
Water treatment, supply and distribution system	As required
Storm water collection, treatment and disposal	As required
Waste collection, treatment and disposal system	As required
Fire fighting systems	As required
Bunkering and fuel supply	As required
Development of rail transit yard	15 Ha near Balaramapuram Station.
Greenbelt	9.3 Ha
Cruise Terminal	Space for 1 cruise berth and allied tourist facilities

## ENCLOSURE A.6.4

**Facilities to be provided at the completion of Phase II**

Objective	During Phase II, the port shall be developed to handle a rated annual container handling capacity of 4 (four) million TEUs or such other capacity as may be mutually agreed by the Parties. Following are the critical developments required (cumulative facilities) to be developed by Licensee to meet the objective
Layout	<b>Bidder to furnish layout and following details</b>
Berth a)Vessel handling capacity	

<ul style="list-style-type: none"> <li>i) Mainline vessel</li> <li>ii) Feeder vessel</li> <li>iii) General Cargo</li> </ul>	
<ul style="list-style-type: none"> <li>b) Berths <ul style="list-style-type: none"> <li>i) Total berth length</li> <li>ii) Mainline berths</li> <li>iii) Feeder berths</li> <li>iv) General Cargo</li> </ul> </li> </ul>	
<ul style="list-style-type: none"> <li>Berth equipments - Quay cranes</li> <li>c) Post panamax cranes (50T)</li> <li>d) Panamax cranes (40T)</li> </ul>	
<ul style="list-style-type: none"> <li>Back-up area</li> <li>e) Area to be reclaimed</li> <li>f) Area to be developed</li> </ul>	
<ul style="list-style-type: none"> <li>Backup area equipments</li> <li>g) RTGs (40 - 50 T)</li> <li>h) Reach stackers</li> <li>i) Top lift trucks</li> <li>j) Tractors)</li> <li>k) Trailors</li> </ul>	
<ul style="list-style-type: none"> <li>Breakwaters</li> <li>a) North breakwater</li> <li>e) South breakwater</li> <li>f) Temporary breakwater</li> </ul>	
<ul style="list-style-type: none"> <li>Navigation Channel</li> <li>f) Approach channel width</li> <li>g) Approach channel depth (outer)</li> <li>h) Approach channel depth (inner)</li> <li>i) Turning circle diameter</li> <li>j) Turning circle depth</li> </ul>	
<ul style="list-style-type: none"> <li>Navigation aids</li> <li>l) FLLT</li> <li>m) RLLT</li> <li>n) Turning circle buoy</li> <li>o) Channel Marker buoy</li> <li>p) Breakwater lights</li> </ul>	
<ul style="list-style-type: none"> <li>Port crafts</li> <li>k) Tugs (40 T)</li> <li>l) Tugs (20 T)</li> <li>m) Launches</li> <li>n) Barges (Bilge)</li> </ul>	
<ul style="list-style-type: none"> <li>Port buildings</li> <li>Warehouse</li> <li>Container Freight Station</li> </ul>	

EDI / computer communication	
Security systems (CSI, ISPS, etc.)	
Internal road	
Internal rail network	
Electrical distribution, backup systems	
Lighting	
Water treatment, supply and distribution system	
Storm water collection, treatment and disposal	
Waste collection, treatment and disposal system	
Fire fighting systems	
Bunkering and fuel supply	
Development of rail transit yard	
Greenbelt	
Cruise Terminal	

## ENCLOSURE A.6.5

**Facilities to be available during the completion of Phase III**

Objective	During Phase III, the port shall be developed to handle a rated annual container handling capacity of 5.30 million TEUs and 2.4 MTPA of general cargo or such other capacity as may be mutually agreed between the parties. Following are the critical developments required (cumulative facilities) to be developed by Licensee to meet the objective
Layout	<b>Bidder to furnish Layout and following details</b>
Berth a)Vessel handling capacity i)Mainline vessel ii)Feeder vessel iii) General Cargo b) Berths i)Total berth length ii) Mainline berths iii) Feeder berths iv) General Cargo	<ul style="list-style-type: none"> <li>•</li> <li>•</li> <li>•</li> <li>•</li> <li>•</li> <li>•</li> <li>•</li> <li>•</li> </ul>
Berth equipments - Quay cranes e) Post panamax cranes (50T)	<ul style="list-style-type: none"> <li>•</li> </ul>

f) Panamax cranes (40T)	•
Back-up area	
c) Area to be reclaimed	•
d) Area to be developed	•
Backup area equipments	
f) RTGs (40 - 50 T)	•
g) Reach stackers	•
h) Top lift trucks	•
i) Tractors	•
j) Trailors	•
Breakwaters	
a) North breakwater	•
g) South breakwater	•
h) Temporary breakwater	•
Navigation Channel	
k) Approach channel width	•
l) Approach channel depth (outer)	•
m) Approach channel depth (inner)	•
n) Turning circle diameter	•
o) Turning circle depth	•
Navigation aids	
q) FLLT	•
r) RLLT	•
s) Turning circle buoy	•
t) Channel Marker buoy	•
u) Breakwater lights	•
Port crafts	
o) Tugs (40 T)	•
p) Tugs (20 T)	•
q) Launches	•
r) Barges (Bilge)	•
Port buildings	•
Warehouse	•
Container Freight Station	•
EDI / computer communication	•
Security systems (CSI, ISPS, etc.)	•
Internal road	•
Internal rail network	•
Electrical distribution, backup systems	•
Lighting	•
Water treatment, supply and distribution system	•
Storm water collection, treatment	•

and disposal	
Waste collection, treatment and disposal system	•
Fire fighting systems	•
Bunkering and fuel supply	•
Development of rail transit yard	•
Greenbelt	•
Cruise Terminal	•

APPENDIX 7  
PROJECT SCHEDULE  
[TO BE PROVIDED BY LICENSEE]



## APPENDIX 8

## Preliminary Design Criteria and Technical Specifications

## Location

Vizhinjam Port is located between Latitudes 8°20'00" N - 8°24'00" N and longitudes 76°57'30"E- 77°03'00" E The site at Vizhinjam enjoys a natural water depth of around 24 m within one nautical mile from the coast and is located only 10 nautical miles from the international shipping route that connects Americas, Europe and the Middle East with West Asia, Far East, Philippines and Australia, New Zealand and Pacific Island States.

## Environmental Conditions

## General

- i) Rainfall: Maximum monthly rainfall is 300 mm during monsoon period.
- ii) Humidity: The maximum relative humidity at the site is 99%.
- iii) Temperature: The minimum and maximum temperatures are 10° C and 45° C respectively.
- iv) Wind: The frequency of storms is higher during the pre-monsoon (Apr-May) and most monsoon seasons (Oct-Dec) with the maximum number occurring in November. IS 875 recommends a basic wind speed of 39 m/ sec.
- v) Datum: All levels specified in this note are with respect to Chart Datum.
- vi) Tide: The tidal levels at the Vizhinjam Port are presented in **Table A.9-1**.

Table A. 0-1 Tidal levels

Levels	Height in meters ( With respect to CD)
HHWS	(+) 1.01
MHH W	(+) 0.84
MLHW	(+) 0.66
MHLW	(+) 0.43
MLLW	(+) 0.26
LLWS	(+) 0.08

- vii) Waves: During the South West Monsoon (June to September), the predominant directions are W, WNW, WSW and South. The maximum significant wave height during monsoon is 4.2 m. During non-monsoon the predominant wave directions are S, SSE and SSW and the maximum significant wave height is 3.4 m.

- viii) Currents: Current velocity observed during the pre-feasibility study period was about 0.86 m / sec. The current direction is noticed as SE and NW (i.e. parallel to the coast).

### **Seismicity**

Vizhinjam falls under Zone III as per the seismic map of India shown in IS:1893(Part1)-2002.

### **Sub Soil Conditions**

From the preliminary investigation carried out during pre-feasibility studies, following can be deduced. The soil stratum near the berth consists of loose to dense sand of thickness (3 to 5 m) with increasing SPT N values with depth. The N values range from 7 at shallow depth to 62 at deeper depths. Hard rock is encountered below this sand layer. The observed bedrock is moderately weathered at surface and rapidly grades into sound rock as depth increases. The thickness of the weathered rock varies from 2 m to 3 m. It is seen from the petrography tests that the encountered rock is Khondolite. The texture of this rock is coarse grained inter granular and dark greyish black in colour. The uniaxial compressive strength (UCS) of the hard rock is about 7.0 MPa. Based on observed SPT N values, the relative densities of these soils typically range between loose to dense. Some of the engineering and physical properties of the encountered sandy soil are mentioned below.

Sand content	: >80 %
Silt and Clay content	: <20 %
Soil Classification as per IS	: SP
Relative density	: loose to dense
Angle of frictional resistance, $\phi$	: 30 to 35 degrees.

The above parameter shall be confirmed by detailed geotechnical investigation.

### **Berthing Structures**

#### **a) Design Vessel Size**

The vessel size for the design of berth structure shall be to suit the phase wise requirement. The berths shall cater for handling 8000 TEU - 12,000 TEU mainline vessels and 1000 to 2000 TEU feeders.

#### **b) Loading Standards**

The loading standards to be adopted for design and construction of the berths shall be as per Bureau of Indian Standards for Ports and Harbours, IS 4651 (1989).

#### **c) Dead Loads, Live Loads and Super Imposed Loads**

The various live and superimposed loads to be considered are as follows:

Container Storage load of 4+1 on the berth deck

IRC Class AA / Class 70R Vehicle loading of IRC: 6  
Quay crane wheel load under service condition and wind condition as per manufacturers specifications.  
Concentrated point corresponding to the container handling equipment such as mobile cranes, forklifts and trucks as per manufacturers specifications.

**d) Wave Loads**

Design wave height inside harbour shall be 0.5 m to 1.0 m with a wave period 8 to 12 seconds. This shall be confirmed by model studies.

**e) Water Levels**

The water levels at the site with respect to CD are shown in **Table A.9-1**. Minimum storm surge of 2m shall be applied over the above levels.

**f) Current Loads**

Current velocity inside the harbour shall be considered as insignificant due to sheltered condition.

**g) Wind Loads**

The wind loads on the structures shall be calculated for a basic wind speed of 39 m/sec, as per provisions of IS 875-1987 for this region. However maximum wind speed during operation shall be limited to 26 m/sec.

**h) Berthing Loads**

Berthing loads are calculated, as per IS 4651 (Part III) - 1989.

**i) Mooring Forces**

The design wind speed for calculating mooring force shall be considered as 26 m/sec, as this is the limit beyond which the vessel has to leave the berth. The mooring force shall be calculated as per IS 4651(Part III).

**j) Seismic Loads**

The design value for the horizontal seismic coefficient  $\alpha_h$  shall be computed as per IS:1893 - 2002:

Vizhinjam falls under Zone III as per the seismic map of India shown in IS: 1893 - 2002. Importance factor of 1.5 to be considered for port structures.

**k) Load Combinations**

**Load combinations shall be as per IS: 4651-Part (IV)-1989. Following is an indicative Table.**

LOAD COMBINATIONS																
Type of Loading			Limit state of Service				Limit State of Collapse									
			I	II	III	IV	V	VI	VII	VII I	IX	X	XI	XII	XII I	XI V
Sl. No	Load Description															
1	Dead Load		1.0	1.0	1.0	1.0	1.5	1.5	1.2	1.2	1.2	0.9	1.2	0.9	1.2	0.9
2	Live Load		1.0	1.0	1.0	1.0	1.5	1.5	1.2	1.2	1.2	0.9	1.2	0.9	1.2	0.9
3	Berthing Force		1.0	1.0			1.5									
4	Mooring Force				1.0	1.0		1.5								
5	Seismic Force	Transverse										1.5	1.5			
		Longitudinal												1.5	1.5	
6	Wind Forces (Non-operational)	Transverse													1.5	1.5
		Longitudinal														
7	Current Forces	Transverse	1.0		1.0		1.0	1.0	1.2		1.0	1.0			1.0	1.0
		Longitudinal		1.0		1.0				1.2				1.0	1.0	
8	Wave (Operational)	Transverse	1.0		1.0		1.0	1.0			1.0	1.0				
		Longitudinal		1.0		1.0								1.0	1.0	

### l) Material Properties

Minimum grade of concrete shall be M30 for all marine structures. Exposure condition is "severe" as defined in IS:456.

### m) Reinforcement Steel

The Reinforcement steel shall be either of corrosion resistant steel (CRS) or HYSD with adequate fusion bonded epoxy or equivalent coating.

### n) Particular Design Conditions

#### i) Marine growth

A marine growth of 50 mm thick on the circumference of the piles to be considered for the area of action while accessing the wave / current forces.

#### ii) Scour allowance

A nominal scour of 2.0m is to be accounted for the pile design in the erodible bed strata.

**iii) Pile safety factors**

Piles shall be designed as per IS:2911.

**o) Design Codes**

The following design codes will be the principle ones used (but not limited to) in the various elements of the design:

**i) Indian Standards for Ports and Harbours**

- IS 4651 (Part I) – 1974 : Code of Practice for Planning and Design of Ports and Harbours (Part I – Site Investigations)
- IS 4651 (Part II) – 1989 : Code of Practice for Planning and Design of Ports and Harbours (Part II – Earth Pressures)
- IS 4651 (Part III) – 1974 : Code of Practice for Planning and Design of Ports and Harbours (Part III – Loading)
- IS 4651 (Part IV) – 1974 : Code of Practice for Planning and Design of Ports and Harbours (Part IV – General Design Considerations)
- IS 4651 (Part V) – 1980 : Code of Practice for Planning and Design of Ports and Harbours (Part V - Layout and functional requirements)
- IS 9527 (Part I) 1981 : Code of Practice for Planning and Design of Ports and Harbours Structures (Part 1- Concrete Monoliths)
- IS 9527 (Part III) 1983 : Code of Practice for Planning and Design of Ports and Harbours Structures (Part III - Sheet Pile Walls)
- IS 9527 (Part V) 1989 : Code of Practice for Planning and Design of Ports and Harbours Structures (Part V - Open Pile Structure)
- IS 9527 (Part VI) 1989 : Code of Practice for Planning and Design of Ports and Harbours Structures (Part VI - Block Work)
- IS 10020 (Part IV) 1981 : Code of Practice for Planning and Design of Ports and Harbours Structures (Part IV – Slipway)

**ii) Standards for Roads, Bridges, Reinforced Concrete etc.**

- IRC - 6(1966) - Standard Specifications and Code of Practice for Road Bridges, Section II Loads and Stresses
- IS 2911 - Code of practice for design and construction of Pile Construction
- IS 1893(2002) - Criteria for Earthquake Resistant Design of Structures
- IS 875(1987) - Code of Practice for Design Loads
- IS 800(1984) - Code of Practice for General Construction and Steel
- IS 456(2000) - Code of Practice for Plain and Reinforced Concrete
- IRC 21(1987) - Standard Specifications and Code of Practice for Road

Bridges Section HI Cement Concrete Plain and Reinforced

IRC 22(1986) - Standard Specifications and Code of Practice for Road Bridges  
Section V] Composite Construction for Road Bridges

**iii) International Standards for Ports and Harbours**

BS 6349 Parts 1 to 7 - British Standard Code of Practice for Maritime Structures.

1. BS 8002 - Code of practice for Earth Retaining Structures
2. Technical Standards for Port and Harbour Facilities in Japan - 1980  
- The Overseas Coastal Area Development Institute of Japan
3. Manual on the Use of Rock in Coastal and Shoreline Engineering - 1991  
- Construction Industry Research and Information Association  
Special Publication- 83 (1991)
4. British Ports Association (1983) -Design of Heavy Duty Pavements for Ports
5. U.S. Army Corps of Engineers (1984) - Shore Protection Manual

**iv) Electrical Equipment and Installations**

The Standards / Guidelines issued by the following organisations may be followed:

1. NEC : National Electrical Code
2. NEMA : National Electrical Manufacturers Association
3. ANSI : American National Standard Institute
4. IEC : International Electro Technical Commission
5. IS : Indian Standard
6. API : American Petroleum Institute

**Breakwater**

**Breakwater Layout**

The final layout of the breakwater is to be chosen based on the planning parameters, existing site conditions and from the requirement of tranquility conditions that is to be maintained inside the harbour for the predominant wave and wind directions prevailing at the site. The layout shall be chosen based on mathematical model studies.

**Design water levels**

The water levels at the site with respect to CD are shown in **Table A.9-1**. Minimum storm surge of 2m shall be applied over the above levels.

## **Design wave height**

The design significant wave height for the proposed breakwaters at 23m water depth is 6.3m, and at 15m water depth it is 6.0m. The critical wave direction is SSW. The mean wave period in this direction is 10s. These parameters shall be considered in the design of the breakwater. The above parameters shall be confirmed by detailed analysis using model studies.

## **Design Standards and References**

1. British Standards Institution (1991). "British Standard Code of practice for Maritime structures, Part 7. Guide to the design and construction of breakwaters" BS 6349:Part 7: 1991, British Standards Institution, London.
2. Van der Meer, J.W. (1993). "Conceptual design of rubble mound breakwaters" Delft Hydraulics Publication No.483, Delft Hydraulics Laboratory, Netherlands.
3. Melby A.J. and G.F. Turk (1997). "Core-Loc concrete armour units". Technical report CHL-97-4. U.S. Army Corps of Engineers, Waterways Experiment station.

## **Other Facilities**

### **a) Container Yard**

Container yard shall be designed for container stack height of 5+1. The yard shall also be designed for taking loads from container handling equipments like RTGs, Top Lift Trucks, Reach stackers etc. apart from IRC: 6 loading.

### **b) Roads**

Roads shall be designed as per relevant IRC codes in addition to other container handling equipment movements (if any).

### **c) Rail**

This shall be designed as per Indian Railway Standards.

### **d) Port Buildings**

The loading standards shall be as per IS: 875 or as per functional requirements. The exposure condition shall be "severe" as per IS 456.

**APPENDIX 9**  
DESIGNS AND DRAWINGS  
[TO BE PROVIDED BY THE LICENSEE]



## APPENDIX 10

### INDEPENDENT ENGINEER

#### Appointment

1. The Licensee shall within 30 Days from the date hereof furnish to the Licensor a mutually acceptable panel consisting of at least three reputed firms or companies or body corporate or a combination thereof, including the names of the key personnel of such organisations who shall be substantially involved in performing services set forth herein, having necessary expertise for appointment of the Independent Engineer, to undertake, perform, carry out the duties, responsibilities, services and set forth herein and elsewhere in this Agreement.
2. The Licensor shall within 30 Days from the date of receipt of such panel, select the Independent Engineer from out of such panel and communicate the same to the Licensee.
3. If the Licensor or Licensee have reason to believe that the Independent Engineer is not discharging its duties in a fair, appropriate and diligent manner, the Licensor may terminate the appointment of the Independent Engineer and appoint another firm in its place in accordance with the procedure set out in (1) and (2) above. Further, if at any time the key personnel of the Independent Engineer substantially involved in performing services set forth herein can no longer be involved in performing services set forth herein, the Licensor may terminate the appointment of the Independent Engineer and appoint another firm in its place in accordance with the procedure set out in (1) and (2) above.
4. If either Party disputes any advice, instruction or decision of the Independent Engineer, the dispute shall be resolved in accordance with the dispute resolution procedure set out in Article 15.

#### Scope of Work

The Scope of Work for the Independent Engineer shall include: -

1. Review of the Designs and Drawings submitted by the Licensee to ensure that they are in accordance with the development proposal submitted by the Licensee in his Bid.
2. Certification that the Designs and Drawings indicate that the works are suitable for their intended purpose. The Independent Engineer shall advise this approval of the Designs and Drawings to the Licensor and the Licensee within twenty-one days of their receipt.

3. Independently review, monitor and where required by the Agreement, to approve activities associated with the design, construction, operation and maintenance of the Port facilities to ensure compliance by the Licensee with the License Agreement and the Approved DPR.
4. Approval of DPR and report to the Licensor, objections or corrections required in order to implement the project as per the provisions of the License Agreement and Good Industry Practices.
5. Ensuring that the provisions of the Designs and Drawings and the Approved DPR do not adversely obstruct any development plans of the Licensor, as and if provided by the Licensor at the time of approval of the Designs and Drawings and the approved DPR.
6. Upon request of the Licensee on completion of construction of various phases as set out in the License Agreement, carry out inspections to ensure that the terminal has been constructed as per the provisions of the License Agreement and the Approved DPR and issue the Completion certificate to the Licensee.
7. In addition to above, the scope of services would also include such other functions as are required to be undertaken pursuant to specific provisions of the License Agreement.
8. In case the Licensee proposes any deviation to the Drawings or ii) submits any Drawings required but not included in the DPR, the Independent Engineer shall review the same to ensure conformity with the Project / Design Requirements.
9. Review the following submitted by the Concessionaire:
  - i) Quality Assurance Plan
  - ii) Project Implementation Plan
10. During the Construction Phase, the Independent Engineer would monitor, in accordance with Good Industry Practice, the progress in implementation and ensure compliance with the construction requirements. For this purpose the Independent Engineer shall undertake, inter-alia, the following activities and where appropriate make suitable suggestions:
  - i) monitor the progress in implementation of the project based on the Implementation and Investment Plan submitted by the Licensee.
  - ii) review and approve designs and drawings for various works related to the project.
  - iii) review and monitor the quality assurance and quality control procedures followed by the Licensee.
  - iv) review the manpower and equipment deployed by the Licensee.

- v) monitor the Construction works for conformity with the Approved DPR.
11. During the Operations Phase, the Independent Engineer would monitor, in accordance with Good Industry Practice, the operations, performance standards, repair and maintenance activities undertaken by the Licensee so as to ensure compliance with the project requirements. The specific activities to be undertaken would include the following:
- i) review the port operations
  - ii) review the performance indicators of the port facilities so as to ensure compliance with the Performance Standards specified in the Concession Agreement.
  - iii) review the repair and maintenance plans submitted by the Licensee from time to time so as to ensure compliance by the Licensee with the repair and maintenance requirements.
  - iv) inspect the port facilities at least once in three months and as when exigencies require to ascertain conformity with the project requirements
  - v) undertake quarterly review of the various records and registers to be maintained by the Licensee and suggest suitable remedial measures/ procedures, where necessary in the event of emergency, the Independent Engineer shall assist the Licensee in dealing with the same and if necessary require or permit, as the case may be, the Licensee to take such appropriate steps or measures including where necessary decommissioning of any Port facilities.

## **12. Meetings, Records and Reporting**

- iii) The Independent Engineer would be required to participate in the project review meetings held from time to time by the Parties, as also to participate in emergency or extraordinary meetings of the Parties held to deal with any emergency, Force Majeure event or other exigencies.
- iv) The Independent Engineer shall, in the ordinary course of business, maintain record of the activities undertaken by it in discharge of its functions and responsibilities and submit periodic reports to the Licensor.
- v) The Independent Engineer shall share all the information, data and records collected by it and/or available with it in relation to the discharge of its functions and responsibilities, with an authorised person designated by the Licensor in this regard.
- vi) The Independent Engineer shall convey to the Licensor and the Licensee the justifications in writing for its decisions in the course of discharging its functions and responsibilities.

16. Certification of the rated container handling capacity of the Port in the manner set out in this Agreement.
17. Review and monitor the Equipment Procurement Plan, the Equipment Replacement Plan, Waste Management and Port Safety Plan.
18. Review of procurement procedure by EPC contractors and equipment suppliers.
19. Review and monitor the transfer of assets and scope of transfer.

APPENDIX 11  
OPERATIONAL STRATEGIES AND WORK PLAN  
[LICENSEE TO PROVIDE]

**APPENDIX 12**  
EQUIPMENT PROCUREMENT PLAN  
[LICENSEE TO PROVIDE]

**APPENDIX 13**  
YEAR WISE INVESTMENT PLAN  
[LICENSEE TO PROVIDE]

**APPENDIX 14**  
OPERATIONS AND MAINTENANCE PLAN  
[LICENSEE TO PROVIDE]



## Appendix 15 Operations Phase Guarantee

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1. The Hon'ble Governor of the State of Kerala in his executive capacity for the Government of the State of Kerala, acting through the Secretary, Ports Department, Government of Kerala having its office at Room # \_\_\_\_\_, Government Secretariat, Thiruvananthapuram - 695 001, Kerala, INDIA hereinafter referred to as "Licensor" (which expression shall, unless the context otherwise requires include its subsidiaries, successors and assigns) and M/s. [.....] incorporated in \_\_\_\_\_ having its registered office at \_\_\_\_\_, hereinafter referred to as "Licensee", (which expression shall unless the context otherwise requires include its successors-in-interest) have executed a License Agreement dated [ ] (hereinafter referred to as the "**License Agreement**").

WHEREAS under Clause 3.8(a)(xvii) of the License Agreement, the Licensee is required to obtain and furnish a bank guarantee of Rs. [ ] million to secure the obligations of the Licensee during the Operations Phase.

WHEREAS capitalised words and expressions used in this Guarantee but not defined herein shall have the same meaning as assigned to them in the License Agreement.

2. KNOW ALL PEOPLE by these presents that We, the [name of Bank], having our registered office at [registered office address] and this branch office at [branch office address], hereinafter referred to as "the Bank", do hereby give the Licensor, on behalf of the Licensee, such a Bank Guarantee to secure the obligations of the Licensee during the Operations Phase. The Bank hereby affirms that the Bank is the Guarantor and responsible to the Licensor, on behalf of the Licensee, upto a total of Rupees {WORDS / FIGURES} in the event of the Licensee committing a breach of any covenants / conditions/ obligations during the Operations Phase as set out in the License Agreement.
3. The Bank undertakes to unconditionally pay the Licensor, upon the first written demand from the Licensor, issued through a notice under registered post (explicitly understood as invocation of this Guarantee) forthwith and without any demur, cavil or argument, any sum or sums within the limit of Rupees [WORDS/FIGURES], as aforesaid, without the Licensor needing to show or prove any grounds or reasons for demanding the sum specified, and without reference to the Licensee

and notwithstanding any dispute or difference of opinion between the Licensor and the Bank and/or Licensee. It is always understood that the decision of the Licensor regarding breach of any condition or covenant by the Licensee is beyond dispute and shall always be unconditionally binding upon the Licensee / Bank. Such payment shall be made forthwith and in any event no later than five Days of receipt of notice of demand. Time as to payment shall be the essence. Without prejudice to the foregoing, in the event of any delay by the Bank in remitting the amounts under the present Guarantee, beyond the said period of 5 Days from the date of receipt of notice of demand from the Licensor, the Bank agrees to pay interest at the rate of 15% per annum compounded on quarterly rests from the date of demand, until the date of payment.

4. The Bank hereby waives the necessity of the Licensor demanding the said debt from the Licensee, before presenting the Bank with the demand, under all circumstances. The Bank also agrees that the Licensor shall be entitled to enforce this Guarantee against the Bank as a principal debtor, without proceeding against the Licensee and notwithstanding any security or other guarantee the Licensor may have in relation to the Licensee's liabilities.
5. The Bank agrees that no change / addition / alteration / amendment / modification to the terms of any document, contract or agreement between the Licensor and Licensee, or of the works to be performed under such contract or agreement, or in any obligation of the Licensor or Licensee, shall in any way, release the Bank from any liability under this Guarantee, and the Bank hereby waives notice of any such change / addition / alteration / amendment / modification.
6. This Guarantee shall come into effect immediately upon being signed, sealed and delivered to the Licensor, and shall stand discharged at the end of the Operations Phase. This Guarantee shall remain in full force and effect and shall not be revoked during the above period.
7. The obligations of the Bank under this Guarantee shall be continuing obligations and shall not be satisfied, discharged or affected by any intermediate or on-account payment.
8. The obligations of the Bank under this Guarantee are in addition to and not in substitution for any other security or guarantee which the Licensor may at any time hold for the performance of the Licensee's obligations under the License Agreement.

9. Any enforcement or failure to enforce by the Licensor of any other such security or guarantee, shall in no way relieve the Bank from its obligations under this Guarantee.
10. This Guarantee shall not be affected by any change in the constitution of the Licensee or the Bank.
11. The neglect, forbearance or waiver of the Licensor in enforcement of payment of any moneys due to the Licensor by the Licensee, or the grant of any extensions of time by the Licensor to the Licensee for fulfilling its obligations, shall in no way relieve the Bank from its liability under this Guarantee.
12. The Bank undertakes, to pay to the Licensor any money so demanded, notwithstanding any dispute or disputes raised by the Licensee or the Bank, on any grounds whatsoever and notwithstanding any suit or proceeding pending before any arbitration panel, tribunal or court. The liability under this present Guarantee is absolute and unequivocal.
17. As an original and independent obligation under this Guarantee, the Bank shall keep the Licensor indemnified against any liability of whatever kind resulting from any of the Licensee's obligations under the License Agreement being or becoming void, voidable, unenforceable or ineffective against the Licensee (including, without limitation, all legal and other costs, reasonable Attorney's fees, charges and expenses incurred by the Licensor in connection with preserving or enforcing, or attempting to preserve or enforce, its rights under the License Agreement). The Bank shall pay on demand the amount of such liability whether or not the Licensor has attempted to enforce any rights against the Licensee.
18. This unconditional and irrevocable guarantee shall be governed by and construed in accordance with the laws currently in force in India.
19. Any and all notices, requests and other communications required or permitted hereunder shall be in writing and shall be sent by any means of recorded delivery including registered post against written acknowledgement of receipt, or by air courier, with postage fully paid, in an envelope properly addressed or by facsimile followed by a confirmation letter by such registered mail, to each of the parties at the addresses set forth herein (or such other address for a party as shall be specified by like notice, provided that notice for change of address shall be effective only upon receipt thereof).

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

20. If any provision of this unconditional and irrevocable guarantee or part thereof is rendered void, illegal or unenforceable in any respect under any law, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby.
21. The Courts of Competent Jurisdiction in Thiruvananthapuram shall have exclusive jurisdiction in respect of all matters relating to or arising out of this unconditional and irrevocable guarantee.

Dated this [ ] day of [ ] 2008.

For [ ]

[ ]

**APPENDIX 16**  
WASTE MANAGEMENT AND PORT SAFETY PLAN  
[LICENSEE TO PROVIDE]

## APPENDIX 17

## EXTERNAL INFRASTRUCTURE FACILITIES, UTILITIES &amp; SERVICES

At the issuance of the Completion Certificate:

ENCLOSURE A.17.1

Objective	Following are the facilities provided by Licensor to meet the objective of providing adequate connectivity/facilities required at the issuance of the Completion Certificate. The locations, length and other features of the proposed connectivity (road and rail links) are indicative subject to detailed survey, planning and design.
Layout	Refer <b>Figure FD0802</b>
Road Link (Northern connectivity)	2 lane elevated road (exclusive for port usage) of about 1.2 km from north end of the proposed Vizhinjam port to the Vizhinjam-Mukkola road. Improvement of 1.8 km of existing road from Vizhinjam-Mukkola road to Mukkola Junction (NH Bypass). Widening of 7 km of existing road from Mukkola Junction (NH Bypass) to the Balaramapuram.
Road Link (Southern connectivity)	Not envisaged in this phase
Rail Link (Northern connectivity)	Railway siding totaling 2km connecting the Rail transit yard and existing railway line near Balaramapuram
Rail Link (Southern connectivity)	Not envisaged in this phase
Rail Transit Yard	Provide a vacant land of about 15 hectares of area near Balaramapuram for transit storage of export/import of hinterland containers.
Water	410 cubic meter of water/day shall be made available at the port boundary.
Electrical Power	110 KV electrical Power with a rated capacity of 30MW shall be made available at the port boundary.

## At the completion of Phase IB:

## ENCLOSURE A.17.2

Objective	Following are the facilities (cumulative) provided by Licensor to meet the objective of providing adequate connectivity/facilities required at completion of Phase I B. The locations, length and other features of the proposed connectivity (road and rail links) are indicative subject to detailed survey, planning and design.
Layout	Refer <b>Figure FD0803</b>
Road Link (Northern connectivity)	2 lane elevated road (exclusive for port usage) of about 1.2 km from north end of the proposed Vizhinjam port to the Vizhinjam-Mukkola road. Improvement of 1.8 km of existing road from Vizhinjam-Mukkola road to Mukkola Junction (NH Bypass). Widening of 7 km of existing road from Mukkola Junction (NH Bypass) to the Balaramapuram.
Road Link (Southern connectivity)	Two lane elevated road (exclusive for port usage) of about 2.6 km from south end of the proposed Vizhinjam port to the Karichal village. 4 km of road from Karichal to NH 47 Bypass.
Rail Link (Northern connectivity)	Railway siding totaling 2km connecting the transit yard and existing railway line near Balaramapuram
Rail Link (Southern connectivity)	13.6 Km railway link from south end of port to the nearest existing BG railway line (running between Thiruvananthapuram and Kanyakumari) at Neyyattinkara station
Rail Transit Yard	Provide a vacant land of about 15 hectares of area near Balaramapuram for transit storage of export/import of hinterland containers.
Water	1000 cubic meter of water/day shall be made available at the port boundary.
Electrical Power	110 KV electrical power with a rated capacity of 75MW shall be made available at the port boundary.

APPENDIX 18  
TRAINING

- (a) Training for operations and maintenance of the Port;
- (b) Training for maintenance and use of information technology systems;
- (c) Training for accounts and audit;
- (d) Training for industrial relations;
- (e) Training for traffic management;
- (f) Training for security;
- (g) Training for health, safety and environmental management; and
- (h) Training for all aspects of engineering.



## APPENDIX 19

### Design Parameters

The Licensor has arranged through competent agencies, a Detailed Feasibility Report for the proposed development with design data generated from investigations and survey(s) carried out in that stage. Possibility of variation in project cost arising out of change in design of civil structures on account of variation in the design data arrived at after detailed investigations post project award, are mitigated by Licensor by furnishing the following parameters, as the design basis for the bidders proposal only and to be considered for variation post award, if any. These parameters and the design basis shall be reconfirmed by the Licensee on award. All parameters other than those specified hereunder shall be considered to have been duly verified / obtained by the bidders in making their proposals and variation, if any, on account of these will not be admissible.

#### I. Bathymetry

Reference can be made to Chapter 17 (Seabed Engineering & Oceanographic Investigations) of Volume 2, Section VII of RFP Bid. Bathymetry for the entire port area shall be according to the Bathymetry Survey Report in the reference.

#### J. Geotechnical information

Reference can be made to Chapter 17, (Geotechnical Investigations) of Volume 2, Section VII of RFP Bid.

The information made available in the reference to the bidders are:

11. 3 boreholes onshore
12. 3 boreholes offshore
13. Sub-bottom profiler of the entire port area
14. Seabed Sediment samples

Based on these data, the following parameters can be deduced:

- i. Bed level - the bed level with respect to Chart Datum shall be based on drawing No. NIOT/C-294/5
- ii. Sediment layer: Immediately below the bed level is a sediment layer. This layer consists of sedimentary material whose thickness for the entire port area shall be as indicated by the Isopach Map shown in drawing no. NIOT/C-294/6. For areas between the shoreline and landward end of sub bottom profiler survey area (water depths less than 8m), where sub-bottom profiling was not possible, the thickness

shall be interpolated between the onshore borehole information and isopach map. The Sediment Layer shall be considered as silty sand / Loose to medium sand / Dense sand with 'N' values as given below:

Silty sand / loose to medium sand: N = 11  
Dense sand: N = 39

The thickness of each of the above two layers shall be assumed to be 50% of the sediment layer.

- iii. Weathered rock layer - Below the Sediment layer the strata consists of weathered rock whose 'N' value may be considered as 100. Thickness of weathered rock may be considered varying between 0.0 m to 3.0 m.
- iv. Hard Rock Layer - Below the weathered rock, Hard Granitic rock with the following properties as is encountered.

Rock Quality Disintegration (RQD) = 30% to 40%  
Core recovery = > 70%

**APPENDIX 20**  
**Checklist for due diligence**

Nos	Criteria
<b>I</b>	<b>General</b>
1.	Govt. policies for Port privatization
2.	Statutory Clearances required and Govt's initiatives
3	Services to be provided by licensee/licensor
4.	Land or premises described and licensed or given in concession shall be taken in its or their present condition
5	Ownership of facilities
6.	Liability of the licensee with regard to property and people
<b>II</b>	<b>Technical</b>
7.	Adequacy of available Data (Topography, Bathymetry, Geotechnical (onshore), Geotechnical (offshore), Wind, Wave, Current)
8	Additional data collection
9	Traffic Forecast
10	Vessel size analysis
11	Development Plan/Masterplan
12	Land use Plan
13	Model studies for wave tranquility
14	Studies for Channel Navigation and Navigational Aids
15	Physical Model studies for Breakwater
16	Design and sizing of structures (Berths, Breakwaters, Storage yard, Buildings, Roads)
17	Operation Simulation studies
18	Equipment procurement plan
19.	Minimum performance standards to be met
20.	Operation plan
21	Organization plan
<b>III</b>	<b>Services</b>
22	Water and Power Requirement
23.	Hinterland Connectivity
24	Environmental Mitigation Plan
<b>IV</b>	<b>Financial/Legal Framework</b>
25.	Fiscal incentives provided by State Government
26.	Existing tax provisions – Central, State and Local
27.	Financial assistance (fund based) <ul style="list-style-type: none"> <li>• Grant/subsidy</li> <li>• Interest free loan</li> </ul>
28.	Financial assistance (non fund based)

	<ul style="list-style-type: none"> <li>• Government guarantee</li> </ul>
29.	Assistance provided for obtaining approvals/clearances
30.	Financial structuring
31.	Government policy on FDI for sector
32.	GoI sector specific policy
33.	ECB norms for sector
34.	Domestic lenders <ul style="list-style-type: none"> <li>• Terms &amp; Conditions</li> <li>• Special covenants</li> </ul>
35.	Suppliers credit
36.	Labor law
37.	Freedom to set tariff - tariff regulation
38.	Revenue sharing mechanism with Licensor
39.	Concession - BOT, BOOT, BOO
40.	Land - Transfer of rights to use