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**VOLUME II – CONDITIONS OF CONTRACT**

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**TIDEL PARK LIMITED**

**E-TENDER FOR Construction of IT Office Building, Ground Floor + 12 Floors + Terrace, Including Civil Construction, Interior Finishing Works, MEP Works and Other Allied Development Works at Mattuthavani in Madurai.**



<b>TIDEL PARK LIMITED</b>
<b>NATIONAL COMPETITIVE E-TENDER</b>
<b>E-TENDER FOR Construction of IT Office Building, Ground Floor + 12 Floors + Terrace, Including Civil Construction, Interior Finishing Works, MEP Works and Other Allied Development Works at Mattuthavani in Madurai.</b>
<b>VOLUME – II</b>
<b>CONDITIONS OF CONTRACT</b>
<b>DUE DATE FOR SUBMISSION: ON OR BEFORE: 07-09-2024 at 3.00PM</b>
<b>URL for online bid submission for e-tender: <a href="https://www.tntenders.gov.in/">https://www.tntenders.gov.in/</a></b>
<b>TENDER SUBMITTED BY: M/s. _____</b> <b>Address: _____</b>
<b>AUGUST 2024</b>

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**TENDER FORM****To****Date:**

**The Managing Director, TIDEL Park Ltd.,  
No: 4, Rajiv Gandhi Salai,  
Taramani, Chennai 600113**

**Dear Sir,**

**Sub: E-Tender for Construction of IT Office Building, Ground Floor + 12 Floors + Terrace, Including Civil Construction, Interior Finishing Works, MEP Works and Other Allied Development Works at Mattuthavani in Madurai.**

**Ref: e-Tender notice issued by TIDEL PARK Ltd in Newspapers on 07-08-2024**

1. We confirm that we have examined the tender documents including all drawings, technical specifications and bill of materials / quantities with respect to execution of the works specified in the memorandum hereinafter set out and having visited and examined the site of the works specified in the said memorandum and having obtained requisite information thereto the tender.

2. We hereby offer our bid to execute the works specified in the said memorandum strictly within the stipulated time frame specified in the said memorandum at the rates mentioned in the attached bill of materials / quantities and in accordance, in all respects, to the technical specifications, designs, drawings and specific instructions in writing referred to in conditions of tender, the Articles of Agreement, Special Conditions, Bill of Quantities and Conditions of Contract and with such materials as are provided for, by, and in all other respects in accordance with such conditions so far as they may be applicable.

3. The memorandum & relevant details are specified as below.

**MEMORANDUM**

Description of works	: E-Tender for Construction of IT Office Building, Ground Floor + 12 Floors + Terrace, Including Civil Construction, Interior Finishing Works, MEP Works and Other Allied Development Works at Mattuthavani in Madurai.
a) Estimated Value	: Rs. 245.49 Crores plus applicable GST
b) Earnest Money deposit	: Rs.1,45,00,000/- (Rupees One Crore Forty Five Lakhs Only)
c) Retention amount	: TIDEL shall deduct from the Running Account Bills equivalent to 5% (Five Percent) of the contract value of each bill as retention money. 50% of retention money shall be released upon completion & handing over of all the works including completion of snag works as certified by Client/PMC. Balance 50% of the retention money shall be released upon completion of Defects Liability Period. The retention money deducted in cash from the running account bills will not bear any interest.

d) Date of Commencement of work : Date of signing of Agreement. The contract agreement shall be signed within 15 days from the issue of LOA

e) Stipulated Time frame to complete work on E-Tender for Construction of IT Office Building, Ground Floor + 12 Floors + Terrace, Including Civil Construction, Interior Finishing Works, MEP Works and Other Allied Development Works at Mattuthavani in Madurai is 16 Months from the date of signing of Agreement.

4. We M/s ..... hereby agree to abide by and fulfil the terms stipulated in provisions of the said Conditions of Contract annexed hereto so far as they are applicable or in default thereof to forfeit and pay to TIDEL Park Ltd, TARAMANI, Chennai, such amount mentioned in the said contract.

5. We hereby agree to abide by this tender for the fixed period of 16 Months from the date fixed for receiving the same and it shall be binding upon us and may be accepted at any time before the expiration of said period without any additional cost.

6. We hereby undertake that, in the event of this tender being accepted by TIDEL Park Ltd, to execute an Agreement in the form annexed hereto, within 15 days from the date of issue of Letter of Award.

7. I / We have deposited a sum of **Rs.1,45,00,000/- (Rupees One Crore Forty Five Lakh Only)** as Earnest Money Deposit which amount shall not to bear any interest. In the event we failed to execute the contract as per conditions stipulated, and when called upon to do so, I / We do hereby agree that this EMD sum shall stand forfeited by TIDEL Park Ltd, Chennai.

8. If this tender is accepted by TIDEL Park Ltd, we hereby agree to provide Performance Bank Guarantee from any Nationalized / Scheduled Bank as performance bond for a sum equivalent to 5% of the Work Order Value as guarantee for the due performance of the contract as per the terms and conditions of the contract within fifteen days from the date of issue of Letter of Award.

9. We hereby agree that until a formal agreement is prepared / executed, this tender along with your written acceptance of our bid thereof shall constitute a valid and binding contract in between us.

10. We understand that TIDEL Park Ltd reserves the right to either accept or reject any one / all the tenders without assigning any reasons what so ever there of

11. Our Main bankers are: (Kindly state name, address & phone)

i)

ii)

12. Names of partners of our firm / Directors of our company are: (Kindly state name, address & phone)

13. The names of the partner of the firm / Director's of our company who are authorized to sign on our behalf:

Or

Name of person having formal power of attorney as Authorized Signatory to sign the contract (certified true copy of power of attorney should be attached)

(Kindly state name, address & phone)

Yours faith fully,

Signature of Bidder's authorized  
Signatory of the company with  
Board resolution reference Along  
with common seal of company

WITNESSES:  
Name & Signature:  
Occupation:  
Address:

WITNESSES:  
Name & Signature:  
Occupation:  
Address:

# **SECTION I**

## **GENERAL CONDITIONS**



## **1. General Provisions**

### **1.1. Definitions**

In the Conditions of Contract ("these Conditions"), which include Particular Conditions and these General Conditions, the following words and expressions shall have the meanings stated herein. Words indicating persons or parties include corporations and other legal entities, except where the context requires otherwise specifically.

#### **1.1.1. The Contract**

1.1.1.1. "Contract" means and includes the Contract Agreement, the Letter of Award, the Letter of Tender, these Conditions, the Employer's Requirements, the Schedules, the Contractor's Proposal, and the further documents (IF ANY) which are listed in the Contract Agreement or in the Letter of Award.

1.1.1.2. "Contract Agreement" means the Contract Agreement (if any) referred to in Sub-Clause 1.6 [Contract Agreement].

1.1.1.3. "Letter of Award" means the letter of formal acceptance, signed by the Employer, of the Letter of Tender, including any annexed memoranda comprising agreements between and signed by both Parties. If there is no such letter of acceptance, the expression "Letter of Award" means the Contract Agreement and the date of issuing or receiving the Letter of Award implies the date of signing the Contract Agreement.

1.1.1.4. "Letter of Tender" means the document titled "letter of tender" or "letter of bid", which was completed by the Contractor and includes the signed offer to the Employer / OWNER for the Works.

1.1.1.5. "Employer's (OWNER's) Requirements" means the document titled employer's requirements, as included in the Contract, and any other additions and modifications to such document in accordance with the Contract. Such document specifies the purpose, scope, and/or design and/or other technical criteria, for the Works.

1.1.1.6. "Schedules" means the document(s) titled schedules, completed (filled up) by the Contractor and submitted along with the Letter of Tender, as included in the Contract. Such document may include data, lists and schedules of payments and/or prices.

1.1.1.7. "Contractor's Proposal" means the document titled proposal, which the Contractor submitted along with the Letter of Tender, as included in the Contract. Such document may include the Contractor's preliminary design.

1.1.1.8. "Tender" means the Letter of Tender and all other documents which the Contractor submitted along with the Letter of Tender, as included in the Contract.

1.1.1.9. "Contract Data" means the pages completed by the Employer (OWNER) titled contract data which constitutes Part A of the Particular Conditions

1.1.1.10. "Schedule of Guarantees" and "Schedule of Payments" mean the documents so named (if any) which are comprised in the Schedules.

#### **1.1.2. Parties and Persons**

1.1.2.1. "Party" means either the OWNER or the Contractor, as the context requires.

- 1.1.2.2. "Employer" or "Owner" or "Client" means the person named as employer in the Contract Data and the successors to title (legal rights) of this person / entity.
- 1.1.2.3. "Contractor" means the person(s) named as contractor in the Letter of Tender accepted by the Employer and the legal successors in title to this person(s).
- 1.1.2.4. "Engineer / Engineering Consultant / PMC" means the person / entity appointed by the Employer / Owner to act as the Engineer / Engineering Consultant / Project Management Consultant for the purposes of the Contract and named in the Contract Data / for project management and supervision, or any other person appointed from time to time by the Employer / Owner and notified to the Contractor under Sub-Clause 3.4 [Replacement of the Engineer].
- 1.1.2.5. "Project Engineer" means the Engineer/Officer-in-Charge duly assigned by Employer.
- 1.1.2.6. "Contractor's Representative" means the person so named by the Contractor in the Contract or appointed from time to time by the Contractor under Sub- Clause 4.3 [Contractor's Representative], who acts for and on behalf of the Contractor.
- 1.1.2.7. "Employer's Personnel" or "Employer's Representative" means the Engineer or Engineering Consultant, the assistants referred to in Sub- Clause 3.2 [Delegation by the Engineer] and all other staff, labour and other employees of the Engineer and of the Employer / Owner; and any other personnel notified to the Contractor, by the Employer / Owner or the Engineer, as Employer's (Owner's) Personnel.
- 1.1.2.8. "Contractor's Personnel" means the Contractor's Representative and any / all other personnel whom the Contractor utilizes on Site, who may include the staff, labour and other employees of the Contractor and of each Sub- contractor; and any other personnel who assists the Contractor in the execution of the Works.
- 1.1.2.9. "Sub-contractor" means any person named so in the Contract as a sub- contractor, or any person appointed as a sub-contractor, for execution of a part of the Works; and the legal successors in title to each of these persons.
- 1.1.2.10. "DB" means the person or four persons appointed under Sub-Clause 20.a [Appointment of the Dispute Board]
- 1.1.2.11. "Bank" means the financing institution (if any) named in the Contract Data.
- 1.1.2.12. "Borrower" means the person (if any) named as the borrower in the Contract Data.

### **1.1.3. Dates, Tests, Periods:**

- 1.1.3.1. "Base Date" means the date which is 15 days prior to the latest date for submission and completion of tender.
- 1.1.3.2. "Commencement Date" means the date notified under Sub-Clause 8.1 [Commencement of Works].
- 1.1.3.3. "Time for Completion" means the time for completing the Works or a Section (as the case may be) under Sub- Clause 8.2 [Time for Completion], as stated in the Contract Data (with any extension under Sub-Clause 8.4[Extension of Time for Completion]), calculated from the Commencement Date.
- 1.1.3.4. "Tests on Completion" means the tests which are specified in the Contract or agreed by both Parties or instructed as a Variation, and which are carried out under Clause 9 [Tests on Completion] before the Works or a Section (as the case may be) are handed over to / taken over by the Employer (Owner).
- 1.1.3.5. "Taking-Over Certificate" means the certificate issued under Clause 10 [Employer's Taking Over].
- 1.1.3.6. "Tests after Completion" means the tests (if any) which are specified in the Contract and which are carried out under Clause 12 [Tests after Completion] after the Works or a Section (as the case may be) are taken over by the Employer.
- 1.1.3.7. "Defects Notification Period" or "Defects Liability Period" means the period for notifying defects in the Works or a Section (as the case may be) under Sub- Clause 11.1 [Completion of Outstanding Work and Remedying Defects], as stated in the Contract

Data (with any extension under Sub- Clause 11.2.A [Extension of Defects Liability Period]), calculated from the date on which the Works or Section is completed as certified under Sub- Clause 10.1 [Taking Over of the Works and Sections].

1.1.3.8. "Performance Certificate" means the certificate issued under Sub- Clause 11.8 [Performance Certificate].

1.1.3.9. "Day" means a calendar day and "year" means 365 days.

1.1.3.10. Contract Period means the period from the commencement date to completion date.

#### **1.1.4. Money & Payments:**

1.1.4.1. "Accepted Contract Amount" means the amount accepted in the Letter of Award for the execution and completion of the Works and the remedying of any defects.

1.1.4.2. "Contract Price" means the price defined in Sub-Clause 14.1 [The Contract Price], and includes any adjustments in accordance with the Contract.

1.1.4.3. "Cost" means all expenditures reasonably incurred (or to be incurred) by the Contractor, whether on or off the Site, including any overheads and similar charges, but does not include profit.

1.1.4.4. "Final Payment Certificate" means the payment certificate issued under Sub- Clause 14.12 [Issue of Final Payment Certificate].

1.1.4.5. "Final Statement" means the statement defined in Sub-Clause 14.10 [Application for Final Payment Certificate].

1.1.4.6. "Foreign Currency" means a currency in which part (or all) of the Contract Price is payable, but not the Local Currency.

1.1.4.7. "Interim Payment Certificate" means a payment certificate issued under Clause 14 [Contract Price and Payment], other than the Final Payment Certificate.

1.1.4.8. "Local Currency" means the currency of the Country (Indian Rupees).

1.1.4.9. "Payment Certificate" means a payment certificate issued under Clause 14 [Contract Price and Payment].

1.1.4.10. "Provisional Sum" means a sum (if any) which is specified in the Contract as a provisional sum, for the execution of any part of the Works or for the supply of Plant, Materials or services under.

1.1.4.11. "Retention Money" means the accumulated retention moneys which the Employer retains under Sub-Clause 14.3 [Application for Interim Payment Certificates] and pays under Sub-Clause 14.8 [Payment of Retention Money].

1.1.4.12. "Statement" means a statement submitted by the Contractor as part of an application, under Clause 14 [Contract Price and Payment], for a payment certificate.

#### **1.1.5. Works and Goods**

1.1.5.1. "Contractor's Equipment" means all apparatus, machinery, vehicles and such other things which are required for execution and completion of Works and for remedying of any defects. However, Contractor's Equipment excludes Temporary Works, Employer's / Owner's Equipment (if any), Installations / Plant / Machinery / Equipment's / Materials and any such other things intended to form or forming part of the Permanent Works.

1.1.5.2. "Goods" means Contractor's Equipment, Materials, Plant and Temporary Works, or any such items.

1.1.5.3. "Materials" means things of all kinds (other than Plant) intended to form or forming part of the Permanent Works, including the supply-only materials (if any) to be supplied by the Contractor under the Contract.

1.1.5.4. "Permanent Works" means the permanent works to be executed by the Contractor under the Contract.

1.1.5.5. "Plant" means the apparatus, machinery and vehicles intended to form or forming part of the

Permanent Works, including vehicles purchased for the Employer / Owner and relates to construction or operation of the Works.

- 1.1.5.6. "Section" means any part of the Works specified as such in the Contract Data as a Section (if any).
- 1.1.5.7. "Temporary Works" means all temporary works of every kind (other than Contractor's Equipment) which are required on site in order to execute and complete the Permanent Works and the remedying of any defects.
- 1.1.5.8. "Works" mean the Permanent Works and the Temporary Works, or either of them as appropriate in the context.

#### **1.1.6. Other Definitions**

- 1.1.6.1. "Contractor's Documents" means any calculations, computer programs and such other software, drawings, manuals, models and other related documents of a technical nature (if any) supplied by the Contractor under the Contract; as described in Sub-Clause 5.2 [Contractor's Documents].
- 1.1.6.2. "Country" means the country in which the Site (or most of it) is located, where the Permanent Works are to be executed.
- 1.1.6.3. "Employer's / Owner's Equipment" means the apparatus, machinery and vehicles (if any) made available by the Employer / Owner for the use of the Contractor in the execution of the Works, as stated in the Employer's Requirements; but does not include Plant which has not been taken over by the Employer.
- 1.1.6.4. "Force Majeure" is defined in Clause 19 [Force Majeure].
- 1.1.6.5. "Laws" means all national (or state) legislation, statutes, ordinances and other laws and regulations and by-laws of any legally constituted public authority.
- 1.1.6.6. "Performance Bank Guarantee" means the security (or securities, if any) under Sub-Clause 4.2 [Performance Bank Guarantee].
- 1.1.6.7. "Site" means the places where the Permanent Works are to be executed, including storage and working areas, and to which Plant and Materials are to be delivered, and any other places as may be specified in the Contract as forming part of the Site.
- 1.1.6.8. "Unforeseeable" means not reasonably foreseeable by an experienced contractor as on the Base Date.
- 1.1.6.9. "Variation" means any change to the Employer's / Owner's Requirements or the Works, which is instructed or approved as a variation under Clause 13 [Variations and Adjustments].
- 1.1.6.10. "Notice of Dissatisfaction" means the notice given by either Party to the other under Clause 20.4 [Obtaining Dispute Board's Decision] indicating its dissatisfaction and intention to commence Arbitration process.
- 1.1.6.11. "Time for Completion" means a date identified as such in the Contract Documents in GC 8.2 of contract document and the same may be extended by the Engineer's Representative pursuant to Clause 8.4 (Extension Time for Completion).
- 1.1.6.12. "Project Contractors" means contractors engaged on the Project from time to time by the Engineer.
- 1.1.6.13. "Interfacing Contractors" means any of the following whose activities or the works they are engaged to carry out in anyway or at anytime affect or are affected by the Works:
  - 1.1.6.14. Project Contractors and design or specialist consultants engaged on the Project from time to time by the Engineer, the Government of India, the Government of Tamil Nādu or the utility providers;
  - 1.1.6.15. Utility providers;
  - 1.1.6.16. Developers or franchisees appointed on the Project from time to time by the Engineer;
  - 1.1.6.17. Subcontractors of any tier of the contractors within category (a) above, and
  - 1.1.6.18. Contractors and subcontractors of any tier of utility providers, developers and franchisees within categories (b) and(c) above;

- 1.1.6.19. provided that the definition shall exclude the Contractor and his subcontractors of any tier in relation to the Works and in any other capacity which would otherwise fall within categories (a) to (d) above in relation to other works
- 1.1.6.20. "Relevant Authority" means any Government department or public body (other than the Engineer) having jurisdiction in relation to the Works.
- 1.1.6.21. "Key Date" means a date identified as such or Time for completion in the contract documents and whose non-fulfillment will attract penalty as per General Condition 8.7.

## **1.2. Interpretation**

In the Contract, except where the context requires specifically otherwise:

- i. words which indicate one gender include all genders;
- ii. words which indicate singular also include plural and vice versa;
- iii. provisions which include the words "agree", "agreed" or "agreement" require the agreement to be recorded in writing, and
- iv. "Written" or "in writing" means and includes hand-written, type-written, printed or electronically made, and results in a permanent record.
- v. The word "tender" is synonymous with "bid" and "Bidder" with "bidder" and the words "tender documents" with "bidding documents".

The marginal heading words and other headings shall not be taken into consideration in the interpretation of these Conditions.

## **1.3. Communications**

Wherever these Conditions provide for the giving or issuing of approvals, certificates, consents, determinations, notices and requests, these communications shall be:

- a. in writing and delivered by hand (against receipt), sent by mail or courier, or transmitted using any of the agreed systems of electronic transmission as stated in the Contract Data; and
- b. Delivered, sent or transmitted to the address for the recipient's communications as stated in the Contract Data.

However:

- (i) If the Recipient gives notice of another (change of address), communications shall thereafter be delivered accordingly; and
- (ii) If the recipient has not stated otherwise when requesting an approval or consent, it may be sent to the address from which the request was issued.
- c. Communication in respect of Clauses (Termination by Employer / Owner), 16 (Suspension & Termination by Contractor) and 20 (Claims, Disputes and Arbitration) shall be sent ONLY by registered post with acknowledgment due.

Approvals, certificates, consents and determinations shall not be unreasonably withheld or delayed. Whenever a certificate issued to a Party, the Certifier shall send a copy to the other Party. Whenever a notice is issued to a Party, by the other Party or the Engineer, a copy shall be sent to the Engineer or the other Party, as the case maybe.

#### **1.4. Law and Language**

The Contract shall be governed by the laws of the country (or other jurisdiction) stated in the Contract Data.

The ruling language for communications shall be that stated in the Contract Data. If no language is stated there, the language for communications shall be the ruling language of the Contract.

#### **1.5. Priority of Documents**

The documents forming the Contract are to be taken as mutually explanatory of one another. For the purposes of interpretation, the priority of the documents shall be in accordance with the following sequence:

- 1.5.1. The Contract Agreement
- 1.5.2. Letter of Award (LoA)
- 1.5.3. Addenda to the Tender Documents
- 1.5.4. Pre-Bid Queries / Letter of Clarification
- 1.5.5. Pricing Document / Bill of quantities
- 1.5.6. Particular Conditions & Employer's Requirements
- 1.5.7. General Conditions
- 1.5.8. Technical specifications
- 1.5.9. Tender drawings

In case IF any ambiguity or discrepancy is found in the documents or in between the documents, then the PMC/Employer's interpretation / decision will be final.

#### **1.6. Contract Agreement**

The Parties shall enter into a Contract Agreement within 15 days after date of issue of Letter of Award, unless and otherwise the Particular Conditions establish otherwise. The Contract Agreement shall be based upon the form annexed to the Particular Conditions. The costs of stamp duties and similar charges (if any) imposed by law in connection with entry into the Contract Agreement shall be borne by the Employer.

The original Contract Agreement shall remain in the custody of the Employer and a duplicate copy of the Contract Agreement shall remain in the custody of the PMC and Contractor

#### **1.7. Assignment**

The contractor shall not assign the whole or part of the contract or any benefit or interest in or under the contract.

The employer, in cases where it is found, that the contractor has not been performing in certain parts of work upon giving a notice of 7 days, can offload such works at the risk and cost of the contractor. Similarly in cases where works are affected due to non-performance or abandoning of works by the bidders or sub-contractor's also employer can get such works done by engaging the same party or any other at the risk and cost of the contractor.

#### **1.8. Care & Supply of Documents**

Each of the Contractor's Documents shall be in the custody and care of the Contractor, unless and until taken over by the Employer. Unless otherwise stated in the Contract, the Contractor shall supply to the Engineer 3 copies of each of his (the Contractor's) Documents.



The Contractor shall keep, on the Site, a copy of the Contract, publications named in the Employer's Requirements, the Contractor's Documents, and Variations and other communications given under the Contract. The Employer's (Owner's) Personnel shall have the right of access to all these documents at all reasonable times.

If a Party becomes aware of an error or defect in any document which was prepared for use in executing the Works, such Party shall promptly give notice to the other Party of such error or defect for the purpose of appropriate corrections.

### **1.9. Errors in the Employer's (Owner's) Requirements**

If the Contractor suffers any delay and/or incurs any Cost as a result of an error in the Employer's (Owner's) Requirements, and an experienced contractor exercising due diligence could not have discovered such error while scrutinizing the Employer's (Owner's) Requirements under Sub-Clause 5.1 [General Design Obligations], then, the Contractor shall give notice to the Engineer and shall be entitled subject to:

- 1.9.1. Any extension of time for any such delay, IF completion is or shall be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and payment of any such Cost plus profit, which shall be included in the Contract Price.

After receiving such notice, the Engineer shall proceed in accordance with Sub- Clause 3.5 [Determinations] either to agree or to determine (i) whether and (if so) to what extent the error could not reasonably have been so discovered, and (ii) the matters described in Sub - paragraphs (a) and (b) above related to this extent.

### **1.10. Employer's Use of Contractor's Documents**

As between the Parties, the Contractor shall retain the copyright and other intellectual property rights in the Contractor's Documents and other design documents authored by (or on behalf of) the Contractor.

The Contractor shall be deemed (by signing the Contract) to give to the Employer / Owner a non-terminable, transferable, non-exclusive and royalty-free license to copy, use and communicate the Contractor's Documents, including making and using modifications of them. This license shall:

- 1.10.1. apply throughout the actual or intended working life (whichever is longer) of the relevant parts of the Works,
- 1.10.2. entitle any person in proper possession of the relevant part of the Works to copy, use and communicate the Contractor's Documents for the purposes of completing, operating, maintaining, altering, adjusting, repairing and demolishing the Works, and
- 1.10.3. in the case of Contractor's Documents which are in the form of computer programs and other software, permit their use on any computer on the Site and other places as envisaged by the Contract, including replacements of any computers supplied by the Contractor.

The Contractor's Documents and other design documents authored by / made by (or on behalf of) the Contractor shall not, without the Contractor's consent, be used, copied or communicated to a third party by (or on behalf of) the Employer / Owner for any purposes other than those permitted under this Sub-Clause.

### **1.11. Contractor's Use of Employer's Documents**

As between the Parties, the Employer (Owner) shall retain the copyright and other intellectual property rights in the Employer's Requirements and other documents authored by / made by (or on behalf of) the Employer. The Contractor may, at his cost, copy, use, and obtain communication of these documents for the purposes of the Contract. They shall not, without the Employer's consent, be copied, used or

communicated to a third party by the Contractor, except as necessary for the purposes of the Contract.

#### **1.12. Confidential Details**

The Contractor's and the Employer's Personnel shall disclose all such confidential and other information as may be reasonably required in order to verify compliance with the Contract and allow its proper implementation.

Each of them shall treat the details of the Contract as private and confidential, except to the extent necessary to carry out their respective obligations under the Contract or to comply with applicable Laws. Each of them shall not publish or disclose any particulars of the Works prepared by the other Party without the previous agreement of the other Party. However, the Contractor shall be permitted to disclose any publicly available information, or information otherwise required to establish his credentials or qualifications in order to compete for other projects.

#### **1.13. Compliance with Laws**

The Contractor shall, while performing the Contract, comply with all the relevant and applicable Laws.

Unless otherwise stated in the Particular Conditions:

- i. the Employer (Owner) shall have obtained (or shall obtain) the planning, zoning or similar permission for the Permanent Works, and any other permissions described in the Employer's Requirements as having been (or being) obtained by the Employer; and the Employer shall indemnify and secure the Contractor harmless against and from the consequences of any such failure to do so; and
- ii. the Contractor shall give all notices, pay all taxes, duties and fees, and obtain all permits, and approvals, as required by the Laws in relation to the design, execution and completion of the Works and the remedying of any defects; and the Contractor shall indemnify and secure the Employer harmless against and from the consequences of any failure to do so, unless the Contractor is impeded to accomplish these actions and shows evidence of its due diligence.
- iii. Approvals viz. Municipal Corporation, Local authorities, Environmental, Fire NOC etc. Bidder shall also be responsible for obtaining power allocation & power connection, approval from Electrical Inspectorate, all relevant approvals from TANGEDCO and all other required statutory approvals for entire electrical systems such as CEIG approval, (Electrical Safety certificate & DG licence, HSD yard, gas bank), Fire licence and Lifts licence. If needed TIDEL will do necessary facilitation. Applicable statutory fee will be borne by TIDEL as per actuals.

However, the Contractor shall submit, well in time, the details of Goods to the Employer (Owner), who shall then promptly obtain all such import permits or licences that may be required for these Goods.

The Employer (Owner) shall also obtain or grant all such consents including permits- to-work, rights-of-way and approvals that may be required for the purpose of execution of Works.

## **2. The Employer (Owner)**

### **2.1. Right of Access to the Site**

The Employer shall give the Contractor right of access to and possession of all parts of the Site within the time (or times) stated in the Contract Data. The right and possession may not be exclusive to the Contractor. If, under the Contract, the Employer (Owner) is required to give (to the Contractor) possession of any foundation, structure, plant or means of access, the Employer (Owner) shall do so in the time and manner as stated in the Employer's Requirements. However, the Employer (Owner) may withhold any such right or



possession until the Performance Bank Guarantee has been received.

If no such time is stated in the Contract Data, the Employer (Owner) shall give the Contractor right of access to, and possession of, the Site within such times as may be required in order to enable the Contractor to proceed in accordance with the programme submitted under Sub-Clause 8.3 [Programme].

The contractor is required to work on the basis of shared access at the work site duly coordinating with the interfacing contractors. The access given to the contractor is not exclusive to him and the access shall be shared as per the works and sequences required at site. The land given access is for the purpose of permanent, its associated temporary works and storing materials required at site for next one week. For the purpose of stacking of materials ancillary arrangements, offices etc. the contractor need to make its own arrangements elsewhere.

In case if a particular land area is not available for access, employer may give alternate areas in lieu of the same and the contractor shall accordingly plan his works to cater to such changes without any extra cost on such account. Even after such provision, if access to any area gets delayed, then for the purpose of reckoning the delay, the date by which contractor required such area in the approved programme shall be considered.

Further that the progress of works in the areas where access is given is to the satisfaction of the employer, then the contractor's entitlement towards such delays shall be as under:

<b>Period of delay in handing over (delay reckoned as per above mentioned paragraphs)</b>	<b>Extension of Time</b>	<b>Compensation for the suspension period</b>	<b>Remarks</b>
Upto 14 days	No	No	
15 to 30 days	Yes	No	Extension of time as considered due by the employer.
Above 30 days and up to 60 days (Without prior notice)	Yes (As assessed by Engineer and approved by Employer duly considering the program.)	The contractor will be paid least among the following (1) and (2)  (1). As per daily rate of wages for idle labour /employees 70% of the rate for hire charges for idle plant and machinery (excluding the cost of fuel and lubricants) for the number of days approved by TIDEL against proof as per remarks column. In addition, charges towards one time demobilization, remobilization if ordered. (2). 0.03% of Contract value per day for the proportionate* area of land not given access to beyond 30 days up to the time of handing over. (* = Area not given access/ Total area)	Compensation as assessed by the Engineer and approved by Employer on submission of documentary proof by the Contractor to the Engineer's satisfaction. The contractor shall get the documentary proof verified by Engineer on daily basis from the day of occurrence.

Above 60 days from the due date for handing over and upto 20 months from the date of issue of Letter of Award.  (Without prior notice)	Yes  (As assessed by Engineer and approved by Employer duly considering the program.)	The Contractor will be paid least among the following (1) and (2):  (1) The charges for one time demobilization and re-mobilization of the machines demobilized due to non-availability of site (2) 0.03% of Contract value per day for the proportionate* area of land not given access to beyond 30 days upto the time of handing over. (* = Area not given access/ Total area)	The contractor will be allowed to demobilize upon receiving notice of demobilizing any machinery that will remain idle due to the delay in handing over of the site. The contractor has to remobilize the required machinery when the site is handed over without any compensation towards the same.
After 20 months from Letter of Award and up to the original contract period or the approved extended period of completion.	Yes  (As assessed by Engineer and approved by Employer duly considering the program.)	The Contractor will be paid least among the following (1) and (2):  (1) The charges for one time demobilization and remobilization of the machines demobilized due to non-availability of site. (2) 0.03% of Contract value per day for the proportionate* area of land not given access to beyond 30 days upto the time of handing over. (* = Area not given access/ Total area)	The contractor will be allowed to demobilize upon receiving notice of demobilizing any machinery that will remain idle due to the delay in handing over of the site. The contractor has to remobilize the required machinery when the site is handed over without any compensation towards the same.
After 20 months from Letter of Award and up to the original contract period, if the Engineer determines that the contractor will not be able to complete the works within the original contract period, even if the stretches are handed over within the original contract period.	No	No compensation except for the following (1) The value of approved materials actually brought to the site and reasonably required to execute the works during next three months, as per Approved works programme (2) Value of work completed upto date by the Contractor at rates specified in the contract, after taking into account any deductions, set off etc. (3) In addition, a sum not exceeding 2% of the value of the work remaining incomplete on the date of Termination notice Taking effect.	Contractor may ask for deletion from the contract of that part of the works which have not been handed over to him if the Engineer determines that the works of the not handed over sections cannot be completed within the original contract period.

If "Prior Notice" for the purpose of the Table, has been given either by the Employer or the Engineer at least 30 days before the due date of handing over of any site, that hand over is likely to be delayed, then no compensation will be applicable upto a delay of 60 days from the due date of handing over. The period of delay in the above table shall therefore commence 60 days after the original handing over date and subject to the paras mentioned above the table.

The decision of the Employer shall be final on the amount of compensation payable on account of any idle labour/ employees and idle plant/ machinery or re- mobilization charges or pro-rated per square meter contract value or other form of compensation. Apart from this, the Contractor has no other remedies in connection with any delay in handing over of the sites and the same is an excepted matter.

## **2.2. Permits, Licenses or Approvals**

The Employer shall provide, at the request of the Contractor, such reasonable assistance as to allow the Contractor to obtain properly:

- a. copies of the Laws of the Country which are relevant to the Contract but are not readily available, and
- b. any permits, licenses or approvals required by the Laws of the Country:
- c. which the Contractor is required to obtain under Sub-Clause 1.13 [Compliance with Laws],
- d. for the delivery of Goods, including clearance through customs, and
- e. For the export of Contractor's Equipment when it is removed from the Site.

## **2.3. Employer's (Owner's) Personnel**

The Employer shall be responsible to ensure that the Employer's Personnel and any other contractors of the Employer (Owner) on the Site:

co-operate with the Contractor's efforts under Sub-Clause 4.6 [Co-operation], and take actions similar to those which the Contractor is required to take under sub-paragraphs (a), (b) and (c) of Sub-Clause 4.8 [Safety Procedures] and under Sub-Clause 4.18 [Protection of the Environment].

### **2.3.1 Travel accommodation to Employer's (Owner's) Personnel**

All the expenses towards Visit for witnessing performance test at manufacturer's facility for 2 representatives from Clients side should be considered in the Bidders Offer.

## **2.4. Employer's Claims**

If the Employer considers himself to be entitled to any payment under any Clause of these Conditions or otherwise in connection with the Contract, and/or to any extension of the Defects Liability Period, the Employer (Owner) shall give notice of such particulars to the Contractor. However, such notice is not required for payments due under Sub-Clause 4.19 [Electricity, Water and Gas], under Sub- Clause 4.20 [Employer's Equipment and Free-Issue Material] or for any other services requested by the Contractor.

The notice shall be given as soon as practicable as and not longer than 28 days after the Employer (Owner) became aware, or should have become aware, of the event or circumstances giving rise to the claim. Any notice related to any such extension of the Defects Liability Period shall be given before the expiry of such period.

The particulars shall specify the Clause or other basis of the claim, and shall include substantiation of the amount and/or extension to which the Employer(Owner) considers to be entitled in connection with the Contract. The Engineer shall then proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine the amount (if

any) which the Employer is entitled to be paid by the Contractor and / or  
 (ii) The extension (if any) of the Defects Liability Period in accordance with Sub-Clause 11.2.A [Extension of Defects Liability Period].

This amount may be included as a deduction in the Contract Price and Payment Certificates. The Employer shall only be entitled to set off against or make any deduction from an amount certified in a Payment Certificate, or to otherwise claim against the Contractor, in accordance with this Sub-Clause.

Some of the circumstances when this Clause may apply are as follows;

- (i) Claims for amounts not insured by the Contractor.
- (ii) Claims for amounts not recovered from the insurers.
- (iii) Claims for damage caused to Interfacing Contractors, third parties or Engineer's property.
- (iv) Claims against the Contractor for not completing remedial works or to remedy defects.
- (v) Claims for the Contractor not obtaining refunds of duties, GST input credit, etc...
- (vi) Claims for not clearing site and not reinstating such to its original condition.
- (vii) Any other unforeseen circumstances
- (viii) Any price variation, claims, compensation become payable to the interfacing contractor for the delay in the access provided to them by the contractor shall be recovered from the contractor by the employer.

### **3. The Engineer / Engineering Consultant / PMC**

#### **3.1. Engineer's Duties & Authority**

The Employer (Owner) shall appoint the Engineer / Engineering Consultant / PMC who shall carry out the duties assigned to him in the Contract. The Engineer's staff shall include suitably qualified engineers and other such professionals who are competent enough to carry out those specified duties.

The Engineer shall have no authority to amend the Contract.

The Engineer may exercise such authority attributable to the Engineer as specified in or necessarily implied from the Contract. If the Engineer is required to obtain the approval of the Employer before exercising any specified authority, such requirements shall be as stated in the Particular Conditions. The Employer (Owner) shall promptly inform the Contractor of any such change of the any specific authority attributed to the Engineer.

However, whenever the Engineer exercises any specified authority for which the Employer's approval is required, then (for the purposes of the Contract) the Employer shall be deemed to have given such required approval.

Except as otherwise stated in these Conditions:

- a) whenever carrying out duties or exercising authority, specified in or implied by the Contract, the Engineer shall be deemed to act for and on behalf of the Employer(Owner);
- b) the Engineer has no authority to relieve either Party of any duties, obligations or responsibilities under the Contract; and
- c) Any approval, check, certificate, consent, examination, inspection, instruction, notice, proposal, request, test, or such similar acts by the Engineer (including absence of disapproval) shall not relieve the Contractor from any responsibility that he has under the Contract, including responsibility for errors, omissions, discrepancies and non-compliances.
- d) Any act done by the Engineer in response to the Contractor's request, except as otherwise expressly specified, and shall have to be notified in writing to the

Contractor within 28 days of receipt of such request.

The following provision shall apply:

The Engineer shall obtain the specific approval of the Employer (Owner) before taking any action under the following Sub-Clause of these Conditions:

- A. Sub-Clause 13.1: instruct any Variation, except;
  - (i) In an emergency situation as determined by the Engineer, or
  - (ii) If any such Variation would increase the Accepted Contract Amount by less than the percentage specified in the Contract Data.
- B. Sub-Clause 13.3: approve any proposal for any Variation as submitted by the Contractor in accordance with Sub-Clause 13.1 or 13.2.
- C. Sub-Clause 13.4: specify any amount payable in each of the applicable currencies.

Notwithstanding the obligation, as set out above, to obtain approval, if, in the opinion of the Engineer, any emergency occurs which could affect the safety or life of the Works or of any adjoining property, he may, without relieving the Contractor of any of his duties and responsibility under the Contract, instruct the Contractor to execute all such required work or to do all such things as may, in the opinion of the Engineer, be necessary to abate or reduce such risk. The Contractor shall forthwith comply, irrespective of the absence of approval from the Employer (Owner), with any such instruction of the Engineer. The Engineer shall determine any addition to the Contract Price, in respect of such instruction given by him, in accordance with Clause 13 [Variations and Adjustments] and shall notify the Contractor accordingly, along with a copy to the Employer.

#### **Duties of Engineer / Engineering Consultant / PMC During Construction Stage**

The duties of **Engineer / Engineering Consultant / Project Management Consultant (PMC)** or his authorized representatives during construction stage generally are as below but not restricted to these only:

- Watch, monitor and supervise the Works.
- Review and demand test reports of Materials to be used in the Works.
- Check workmanship of the items executed. Since the checks by Engineer/PMC would be only sample random checks and checks required for critical items, primary responsibility of checks in all the areas and in all respects solely lies with the Contractor. However, despite Contractor's checks initially and clearance, if a subsequent check made by Engineer/PMC reveals deficiencies, the same shall be made good to Engineer/PMC's satisfaction.
- Check the measurements.
- Order variation and quantities, items etc.
- Determine extension of time limits in consultation with the Employer as may be applicable and recommend for the Employer to issue.
- Record extra items of the work, if any.
- Represent Employer at Site.
- Invoice certification

The Engineer/PMC may from time to time in writing delegate to the Engineer/PMC representative any of the powers and authorities vested in the Engineer/PMC and shall furnish to the Contractor a copy of all such written delegations of powers and authorities. Any written instruction or approval given by the Engineer/PMC's representative to the Contractor within the terms of such delegation (but not other-wise) shall bind the Contractor and the Employer as though it had been given by the Engineer/PMC.

### **3.2. Delegation by the Engineer**

The Engineer may from time to time assign duties and delegate authority to his assistants, and may also revoke such assignment or delegation any time as per his own discretion. These assistants may include any resident engineer, and/or independent inspectors appointed to inspect and/or test items of Plant and/or Materials. The assignment, delegation or revocation shall be in writing and shall not take effect until copies have been received by both Parties. However, unless otherwise agreed by both Parties, the Engineer shall not delegate the authority to determine any matter in accordance with Sub-Clause 3.5 [Determinations].

Assistants shall be suitably qualified persons, who are competent to carry out these duties and exercise this authority, and who are fluent in the language for communications defined in Sub-Clause 1.4 [Law and Language].

Each assistant, to whom duties have been assigned or authority has been delegated, shall only be authorized to issue instructions to the Contractor to the extent defined by such delegation. Any approval, check, certificate, consent, examination, inspection, instruction, notice, proposal, request, test, or similar act by any assistant, in accordance with the delegation, shall have the same effect as though the act had been an act of the Engineer.

However:

- a) Any failure to disapprove any work, Plant or Materials shall NOT imply / constitute an approval, and shall therefore, not prejudice the right of the Engineer to reject the work, Plant or Materials;
- b) If the Contractor questions any determination or instruction of an assistant, the Contractor may escalate / refer the matter to the Engineer, who shall promptly confirm, reverse or vary such determination or instruction.

### **3.3. Instructions of the Engineer**

The Engineer may issue to the Contractor (at any time) instructions which may be necessary for the execution of the Works and the remedying of any defects, all in accordance with the Contract. The Contractor shall only take instructions from the Engineer, or from the designated assistant to whom appropriate authority has been delegated under this Clause. If an instruction constitutes a Variation, Clause 13 [Variations and Adjustments] shall apply.

The Contractor shall comply with the instructions given by the Engineer or his (delegated) assistant, on any matter related to the Contract. These instructions shall be given in writing.

### **3.4. Replacement of the Engineer**

If the Employer (Owner) intends to replace the Engineer, the Employer shall give notice to the Contractor of the name, address of new Engineer who replaced the existing Engineer.

### **3.5. Determinations**

Whenever these Conditions provide that the Engineer shall proceed in accordance with this Sub-Clause 3.5 either to agree or determine any matter, the Engineer shall consult with each Party in an endeavour to reach agreement. If an agreement is not achieved, the Engineer shall make a fair determination in accordance with the Contract, giving due regard of all relevant circumstances.

The Engineer shall give notice to both Parties of each agreement or determination, with supporting particulars, within 28 days from the receipt of the corresponding claim or request, except when otherwise specified. Each Party shall give effect to each



agreement or determination unless and until revised under Clause 20 [Claims, Disputes and Arbitration].

### **3.6. Management Meetings**

The Engineer or the Contractor's Representative may require the other to attend the Management meeting in order to review the arrangements for future work. The Engineer shall record the business of management meetings and supply copies of such record to those attending the meeting and to the Employer (Owner). In the record, responsibilities for any actions to be taken shall be in accordance with the Contract.

### **3.7. Engineer to Attempt Agreement Claims Report**

The Contractor shall send to the Engineer once in every three months an account giving the following details;

- i) comprehensive particulars, along with full details and justification, of all on-going claims for any extension of time or additional payment to which the Contractor may consider himself entitled, and
- ii) all extra or additional work ordered by the Engineer which he has executed during the preceding three months, including any claims for extension of time or additional payment to which the Contractor may consider himself entitled.
- ii) all extra or additional work ordered by the Engineer which he has executed during the preceding three months, including any claims for extension of time or additional payment to which the Contractor may consider himself entitled.

#### **Claim Determination and Assessment.**

The Engineer shall consult with the Employer before proceeding in accordance with this Sub- clause to agree or determine;

- (i) any extension of Time for Completion, in accordance with GC sub- clauses 3.5 , 8.4, 20 and SP sub-clauses 4 and 20, and/or
- (ii) any additional payment to which the Contractor is entitled under the Contract.

The requirements of this sub-clause are in addition to those of any other GC or SP Clauses which may apply to a claim. If the Contractor fails to comply with any GC or SP sub-clause in relation to any claim, including submission of full supporting details of his claim, the Engineer determination and assessment of any extension of time and/or additional payment shall take account of the extent (if any) to which such failure by the Contractor has prevented or prejudiced the proper investigation of the claim.

The Engineer shall give notice to the Employer and the Contractor of each agreement or determination, with supporting particulars.

## **4. The Contractor**

### **4.1. Contractor's General Obligations**

The Contractor shall duly execute and complete the Works in accordance with the Contract, and shall remedy any defects in the Works. When completed, the Works shall be fit for the purposes for which the Works are intended as defined in the Contract.

The Contractor shall provide the Plant and Contractor's Documents specified in the Contract, and all Contractor's Personnel, Goods, consumables and other things and services, whether of a temporary or permanent nature, required in and for this design, execution, completion and remedying of defects.

The Works shall include any work which is necessary to satisfy the Employer's (Owner's) Requirements, Contractor's Proposal and Schedules, or any such thing implied by the Contract, and any such works which (although not expressly mentioned in the Contract) are necessary for stability or for the completion, or safe and proper operation, of the

Works.

The Contractor shall be responsible for the adequacy, stability and safety of all Site operations, of all methods of construction and of all the Works.

The Contractor shall, whenever required by the Engineer, submit details of the arrangements and methods which the Contractor proposes to adopt for the execution of the Works. No significant alteration to these arrangements and methods shall be made without this having previously been notified to the Engineer.

The Contractor shall provide at his cost everything necessary for the proper execution of the Works according to the intent and meaning of the Bill of Quantities, Specifications and Drawings taken together, whether the same may or may not be particularly shown or described therein provided that the same can reasonably be inferred there from, and if the Contractor finds any discrepancy in the Drawings or between the Bill of Quantities, Specifications and Drawings, he shall immediately and in writing refer the same to the Engineer/PMC who shall decide which is to be followed.

The Contractor is bound to carry out any items of work necessary for the completion of the job even though such items are not included in the quantities and rates. The Engineer/PMC will issue instructions in respect of such additional items and their quantities in writing with the prior consent in writing of the Employer.

The Contractor must co-operate with the other Contractors appointed by the Employer so that the Work shall proceed smoothly to the satisfaction of the Engineer/PMC

The Contractor must bear in mind that all the Work shall be carried out in the most sound, substantial and workmanlike manner and strictly in accordance with the Specifications as given in these documents supplemented by latest versions of relevant provisions of the Indian standard specifications, the code of practice; etc., both as regards to materials and workmanship prior to bidding. All work shall also be carried out in compliance of the requirements of the local public authorities and to the requirements / satisfaction / direction of the PMC/Employer and no deviation on any account will be permitted. The Contractor shall have to use Materials of the makes/manufacturers as shall be Approved by PMC/ Employer. The Contractor shall also conform exactly, fully and faithfully to the designs, drawings and instructions in writing relating to the work.

**a) Earnest Money Deposit (EMD)**

Intending Bidder shall submit as earnest money a sum of **Rs.1,45,00,000/- (Rupees One Crore Forty Five Lakh Only)**

The EMD will be returned to the chosen Bidder after the Bidder submits Performance Bank Guarantee of 5% of Contract sum.

E.M.D. of unsuccessful Bidder will be returned after award of contract.

**b) Forfeiture of EMD**

The EMD paid by the Bidder will be forfeited if:

- i) If the Bidder withdraws their tender or backs out after acceptance of the tender or fails to remit the Security deposit.
- ii) If the Bidder revises any of the terms quoted during the validity period.
- iii) If the Bidder violates any of the conditions of the Tender specification.
- iv) If, the documents furnished with the offer are found to be bogus or the documents contain false particulars.
- v) If, the successful Bidder fails to execute the agreed contract / agreement.
- vi) If the Bid Qualification Requirements are found to be fraudulent/ non-genuine, the EMD paid will be forfeited in addition to black listing in future contracts with TIDEL Park Limited.
- vii) Undue delay in submission of performance guarantee

**4.2. Performance Bank Guarantee**

The Contractor shall obtain (at his cost) a Performance Bank Guarantee for proper performance, for the amount stated in the Contract Data and denominated in the currency of the Contract or in a freely convertible currency acceptable to the Employer.



The Contractor shall deliver the Performance Bank Guarantee to the Employer within 15 days after date of issue of the Letter of Award, and shall send a copy to the Engineer. Performance Security Deposit is to be given in the form of Bank Guarantee from any Nationalized Bank / Scheduled Bank by the successful Bidder.

The Contractor shall ensure that the Performance Bank Guarantee is valid and enforceable until the Contractor has executed and completed the Works and remedied any defects. If the terms of the Performance Bank Guarantee specify its expiry date, and the Contractor has not become entitled to receive the Performance Certificate by the date 28 days prior to the expiry date, the Contractor shall extend the validity of the Performance Bank Guarantee until the Works have been completed and any defects have been remedied.

The Employer shall return the Performance Bank Guarantee to the Contractor within 21 days after issuing a copy of the Performance Certificate.

#### **Release from Performance**

If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of either the Employer or the BIDDER, the Engineering Consultant / Employer or its Representative shall certify that the contract has been frustrated. The BIDDER shall make the site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all work carried out before receiving it and for any work carried out afterwards to which commitment was made. The performance money in such an event is returned by the Employer in the form as it was submitted.

#### **4.3. Contractor's Representative**

The Contractor shall appoint the Contractor's Representative and shall give him all authority necessary to act on the Contractor's behalf under the Contract.

Unless the Contractor's Representative is named in the Contract, the Contractor shall, prior to the Commencement Date, submit to the Engineer for consent the name and particulars of the person the Contractor proposes to appoint as Contractor's Representative. If consent is withheld or subsequently revoked in terms of Sub- Clause 6.9 [Contractor's Personnel], or if the appointed person fails to act as Contractor's Representative, the Contractor shall similarly submit the name and particulars of another suitable person for such appointment.

The Contractor shall not, without the prior consent of the Engineer, revoke the appointment of the Contractor's Representative or appoint a replacement.

The whole time of the Contractor's Representative shall be given to directing the Contractor's performance of the Contract. If the Contractor's Representative is to be temporarily absent from the Site during the execution of the Works, a suitable replacement person shall be appointed, subject to the Engineer's prior consent, and the Engineer shall be notified accordingly.

The Contractor's Representative shall, on behalf of the Contractor, receive instructions under Sub-Clause 3.3 [Instructions of the Engineer].

The Contractor's Representative may delegate any powers, functions and authority to any competent person, and may at any time revoke the delegation. Any delegation or revocation shall not take effect until the Engineer has received prior notice signed by the Contractor's Representative, naming the person and specifying the powers, functions and authority being delegated or revoked.

The Contractor's Representative shall be fluent in the language for communications defined in Sub-Clause 1.4 [Law and Language]. If the Contractor's Representative's delegates are not fluent in the said language, the Contractor shall make competent interpreters available during all working hours.

#### **4.4. Subcontractors**

The Contractor shall not transfer or assign the Contract or any part thereof or any benefit or interest therein or there under without the written consent of the Employer. In the event of the Contractor contravening this condition, the Employer shall be entitled to place the Contract elsewhere on the Contractor's account and at Contractor's risk and cost, then the Contractor shall be liable for any loss or damage which the Employer may sustain in consequence or arising out of such replacing of Contract. This shall not relieve the Contractor of any responsibility under this Contract.

##### **Subcontracting:**

The Contractor shall not sub-contract the whole or any part of the Contract to any person or firm or company hereinafter referred as "Sub-Contractor",

1. without the prior approval of the Employer in writing
2. and such approval if given, shall not establish any Contractual relationship between the Sub-Contractor and the Employer and shall not relieve the Contractor of any responsibility, liability or obligation under the Contract and the Contractor shall be responsible for the acts, defaults and neglects of any Sub-Contractor or Sub-Contractor's agents, servants or workmen as fully as if they were the acts, defaults or neglects of the Contractor or his agents, servants or workmen.
3. The Contractor shall give the Engineer not less than 28 days' notice of the intended date of the commencement of each Subcontractor's work, and of the commencement of such work on the Site

The Contractor shall ensure that the requirements imposed on the Contractor by Sub-Clause 1.12 [Confidential Details] apply equally to each Subcontractor.

Where ever practicable, the Contractor shall give fair and reasonable opportunity for contractors from the Country to be appointed as Subcontractors.

Notwithstanding any approval given by the Employer for sub-contract, it shall continue to be obligatory on the part of the Contractor to provide to the Employer all the details viz., work programme, Quality Assurance Plan and Safety Plan etc. from his Sub-Contractors. Contractor to provide all Supplier validation and background verification information to PMC and Employer for approval. Approval of any sub-contractor is only for carrying out the works efficiently and in reduced time. Approval of sub-contractor does not relieve the contractor from any of his contractual obligations. Contractor shall continue to remain responsible for all the works done by the sub-contractor. All correspondences with respect to. the sub-contractor's works shall be from the Contractor only. Also, eligible payments will be made to the Sub-Contractor on the request and authorisation of the Contractor.

#### **4.5. Nominated Subcontractors**

In this Sub-Clause, "nominated Subcontractor" means a Subcontractor whom the Employer, under Clause 13 [Variations and Adjustments], instructs the Contractor to employ as a Subcontractor.

All specialists, Merchants, Tradesman, and others executing any work or supplying and filling any goods for which time cost prices or provisional sums are included in the schedule of quantities and / or specifications may be nominated or selected by the Employer are hereby declared to be sub-contractor are employed by the contractor and are therein referred to as nominated subcontractor. No nominated sub-contractor shall be employed on or in connection with the works against whom the contractor shall make reasonable objection or save where the Employer and contractor shall otherwise agree, who will not enter into a contract provided,

- a. That the nominated sub-contractor shall indemnify the contractor against the same conditions in respect of the subcontract as the contractor is under, in respect of his contract.
- b. That the nominated sub-contractor shall indemnify the contractor against claims in respect of any negligence by the sub-contractor/ his servants or agents or any issues by him or them of any Workmen- Compensation Act in force.
- c. Payment shall be made to the nominated sub-contractor within fourteen days of the receipt of the Engineer/PMC certificate provided that before any certificate is issued, the contractor shall upon request to furnish to the PMC's proof that all nominated sub-contractor accounts included in previous certificates have been duly discharged, in default whereof the Employer may pay the same upon a certificate of the Engineer/PMC and deduct the amount thereof from any sums due to the contractor. The exercise of this power shall not create privity of contracts as between Employer and sub-contractor.

#### **4.6. Co-operation**

The Contractor shall, as specified in the Contract or as instructed by the Engineer, allow appropriate opportunities for carrying out work to:

Employer's (Owner's) Personnel,

- a) any other contractors employed by the Employer (Owner), and
- b) the personnel of any legally constituted public authorities,

Who may be employed in the execution on or near the Site of any work not included in the contract

Any such instruction shall constitute a Variation if and to the extent that it causes the Contractor suffer delays and/or to incur Unforeseeable Cost. Services for these personnel and other contractors may include the use of Contractor's Equipment, Temporary Works or access arrangements which are the responsibility of the Contractor.

The Contractor shall be responsible for his construction activities on the Site, and shall co-ordinate his own activities with those of other contractors to the extent (if any) specified in the Employer's Requirements.

If, under the Contract, the Employer is required to give to the Contractor possession of any foundation, structure, plant or means of access in accordance with Contractor's Documents, the Contractor shall submit such documents to the Engineer in the time and manner stated in the Employer's Requirements.

#### **Reasonable Opportunity**

The Contractor shall, in accordance with the requirements of the Engineer, afford all

reasonable facilities for Interfacing Contractors and / or any other contractor who may be carrying out, on or adjacent to any Site any Work not included in the Contract but required by the Engineer, any utilities undertaking or other duly constituted authority.

The Contractor shall, as reasonably requested in a written manner by the Engineer, make available to any such Interfacing Contractor, other contractors, or the Engineer or any such authority, any roads or ways for the maintenance of which the Contractor is responsible, for which no additional payment shall be made by the Engineer.

#### **Inspection of Work of Interfacing Contractors**

If any part of the Contractor's work depends upon the work of an Interfacing Contractor, he shall inspect and promptly report to the Engineer any defects in such work that may render it unsuitable for such proper execution. The Contractor's failure to so inspect and report shall constitute acceptance of the Interfacing Contractor's work as fit and proper except as to defects which may develop in the Interfacing Contractor's work after execution of his work.

The Contract allows for continuous audits of the Contractor's compliance with his Interface Management Plan and the requirements given as Engineer's Requirements, and any failure of the monthly and/or quarterly audits shall result in the relevant payment item in the Preliminaries section of Pricing Document being withheld. The decision of the Engineer in this regard shall be final

The Contractor shall be held liable for any loss and expense incurred by the Employer arising from any breach by the Contractor in fulfilling his obligations under the contract, if the Contractor is deemed to have caused any delays, defects, damages or otherwise, as a direct result of his design or construction activities, to the Interfacing Contractors in respect of the whole of the Works.

#### **4.7. Deleted**

#### **4.8. Safety Procedures**

The Contractor shall:

- a) comply with all relevant and applicable safety regulations,
- i. Use reasonable efforts to keep the Site and Works free from any unnecessary obstructions in order to avoid any danger to these persons,
- ii. The Contractor shall in connection with the Works provide and maintain at his own cost adequate lights, proper fencing, guarding, warning signs, watch & ward staff until completion and taking over under Clause 10 [Employer's Taking Over], and Provide any Temporary Works (including roadways, footways, guards and fences) which may be necessary, because of the execution of the Works, for the use and protection of the public and of owners and occupiers of adjacent land round the clock on all days including Sundays and holidays at his own risk and cost.
- iii. Work towards closure of any Non Conformance Report periodically in various categories of high risk, medium risk and low risk. Failure to comply with the closing of NCR's shall attract penalty as mentioned in Particular Condition of Contract.
- iv. Contractor shall appoint qualified security staff for 24x7 security of construction site and labour colony until completion and taking over under. Contractor shall install CCTV inside construction premises till receipt of completion and final taking over

v.Common area lighting in the scope of Contractor till completion and final taking over

#### **4.9. Quality Assurance**

The Contractor shall institute a quality assurance system in order to demonstrate compliance with the requirements of the Contract. Such system shall be in accordance with the details stated in the Contract. The Engineer shall be entitled to audit any aspect of the system.

Details of all procedures and compliance documents shall be submitted to the Engineer for information before each design and execution stage is commenced. When any document of a technical nature is issued to the Engineer, evidence of the prior approval by the Contractor himself shall be apparent on the document itself.

Compliance with the quality assurance system shall not relieve the Contractor of any of his duties, obligations, liabilities or responsibilities under the Contract.

The Contractor shall submit a detailed Quality Plan demonstrating the proposed method of achieving the required quality standards of the Employer.

The Quality Plan should address the quality system as required by ISO 9001- 2008.

The Quality Plan shall clearly list out the procedures, activities, checks, standards and any such thing such as schedule of tests, which he proposes to carry out during the progress of the works and are necessary to comply with the quality objectives of the Employer.

The Contractor's Quality Plan shall specify the Quality Control Team who are to report directly to the top management of the Contractor's organization and is delegated with sufficient authority to suspend any works. The main responsibility of the Quality Control Team is to carry independent site inspections on the Works as identified as Hold Points in the Contractor's Quality Plan to verify that the Works are constructed in accordance with the relevant design before allowing subsequent works to commence.

The Contractor's Quality Plan shall also list the corporate policy adopted by the Contractor.

Without prejudice to GC sub-clause 7.3 - Inspection, Employer's Requirements details the procedure for any additional Engineer Hold Points.

The Contract allows for continuous audits of the Contractor's compliance with his Quality Assurance Plan and the requirements to Employer's Requirements, and any failure of the monthly and/or quarterly audits shall result in the relevant payment item in the Preliminaries section of Pricing Document being withheld. The decision of the Engineer in this regard shall be final.

No extra payment will be made for complying with the provisions of this clause, and the cost of the work under this element shall be deemed to be included in the cost of the lump sum items stated in the Pricing Document.

1. The Contractor shall submit to the PMC/Employer, three hard copies and one soft copy of the QA/QC Manual addressing the specific requirements of this Contract and enumerating his proposal/s to adhere to, but not limited to, the following aspects.

2. The implementation of Quality Assurance and Control on all the activities shall be such that the quality and durability of the completed works shall endeavour to exceed the expectations posed by the Contract Specifications.
3. The manual furnished by the Contractor shall carry vision statements and summaries of policies adopted by his company in ensuring Quality Assurance and improving and Control on and off-sites
4. The Contractor's QA/QC procedures, with respect to the specifics of this Contract shall provide, but not limited to, the following:
  - a. Details of the QA/QC team on site, which shall as a minimum comprise of a Manager, five each of inspectors and technicians, appropriately qualified and with adequate experience in similar type of projects, all of whom will be responsible in ensuring round-the-clock Quality Control and Assurances.
  - b. Chapters on each Section of work, in each discipline and for each project identified in the Construction programme.
  - c. Each chapter shall list out the stages of every item of work, at which sampling and testing would be undertaken.
  - d. All the relevant and applicable codes, specifications and standards, as well as the acceptance criteria for various items of work, workmanship, materials and process employed shall be included.
  - e. Procedure of sampling and testing shall be elaborated as much as possible and shall include the frequency of the same.
  - f. Check lists and formats of reports that would be used in the day to day activities of quality checks.
  - g. Listing of all tests, either as part of the respective chapters or as a separate chapter, that will be carried out, along with the reference documents which explain the requirements of sampling testing procedures for the respective test, including the individual test reporting format, which format shall carry, but not limited to the following:
    - i. Name of Contract and Date of the Report
    - ii. Date of sampling
    - iii. Date of testing
    - iv. Quantity sampled and/or tested, if applicable
    - v. Codal references and the criteria specified.
  - h. Written confirmation of whether the tested sample is satisfying or not the specified criteria and whether the material/work is acceptable or rejected.

#### **4.10. Site Data**

The Employer (Owner) shall have made available to the Bidder for his information, prior to the Base Date, all relevant data in the Employer's possession on sub-surface and hydrological conditions at the Site, including environmental aspects. The Employer shall similarly make available to the Contractor all such data which come into the Employer's possession after the Base Date. The Contractor shall be responsible for interpreting all such data. To the extent which is practicable (taking account of cost and time), the Contractor shall be deemed to have obtained all necessary information as to risks, contingencies and other circumstances which may influence or affect the Tender or Works. To the same extent, the Contractor shall be deemed to have inspected and examined the Site, its surroundings, the above data and other available information, and



to have been satisfied before submitting the Tender as to all relevant matters, including (without limitation):

- a) The form and nature of the Site, including sub-surface conditions,
- b) The hydrological and climatic conditions,
- c) The extent and nature of the work and Goods necessary for the execution and completion of the Works and the remedying of any defects,
- d) The Laws, procedures and labour practices of the Country, and the Contractor's requirements for access, accommodation, facilities, personnel, power, transport, water and other services.

The responsibility of the Contractor is full and final and no claim by the Contractor for additional payment or extension of time shall be allowed on the grounds that of any misunderstanding or misapprehension by the Contractor or that incorrect or insufficient information was given to the Contractor or that he failed to obtain correct and sufficient information.

Before submission of the bid, the Bidder shall conduct the site visit mandatorily, examine and obtain all information to ensure their satisfaction. The submission of a bid by the Tenderer will be construed as evidence that such an examination was made by him and any later claims/disputes in regard to rates quoted or work schedule shall not be entertained or considered by the Employer. Ignorance of site conditions shall not be accepted by the Employer as a basis for any claim for compensation. Tenderer shall get certificate from TIDEL and submit along with bid that site visit is completed.

#### **4.11. Sufficiency of the Accepted Contract Amount**

The Contractor shall be deemed to:

- a) Have satisfied himself as to the correctness and sufficiency of the Accepted Contract Amount, and
- b) Have based the Accepted Contract Amount on the data, interpretations, necessary information, inspections, examinations and satisfaction as to any relevant matters which are referred to in Sub-Clause 4.10 [Site Data] and any further data relevant to the Contractor's design.

Unless otherwise stated in the Contract, the Accepted Contract Amount covers all the Contractor's obligations under the Contract (including those under Provisional Sums, if any) and all such other things which may be necessary for the proper design, execution and completion of the Works and the remedying of any defects.

#### **4.12. Deleted**

#### **4.13. Rights of Way and Facilities**

Unless otherwise specified in the Contract, the Employer shall provide effective access to and possession of the Site including special and/or temporary rights-of-way which are necessary for the Works. The Contractor shall obtain, at his risk and cost, any additional rights of way or facilities outside the Site which he may require for the purposes of the Works.

#### **4.14. Avoidance of Interference**

The Contractor shall not interfere unnecessarily or improperly with:

- a) The convenience of the public, or
- b) The access to and use and occupation of all roads and footpaths, irrespective of whether they are public or in the possession of the Employer or of others.

The Contractor shall indemnify and hold the Employer harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from any such unnecessary or improper interference.

#### **4.15. Access Route**

The Contractor shall be deemed to have been satisfied as to the suitability and availability of access routes to the Site at Base Date. The Contractor shall use reasonable efforts to prevent any road or bridge from being damaged by the Contractor's traffic or by the Contractor's Personnel. These efforts shall include the proper use of appropriate vehicles and routes.

Except as otherwise stated in these Conditions:

- a) The Contractor shall (as between the Parties) be responsible for any maintenance which may be required for his use of access routes;
- b) The Contractor shall provide all necessary signs or directions along access routes, and shall obtain any permission which may be required from the relevant authorities for his use of routes, signs and directions;
- c) The Employer shall not be responsible for any claims which may arise from the use or otherwise of any access route,
- d) The Employer (Owner) does not guarantee the suitability or availability of particular access routes, and
- e) Costs due to non-suitability or non-availability, for the use required by the Contractor, for access routes shall be borne by the Contractor.

If any damage occurs to any bridge or road communicating with or on the routes to the Site arising from the transport of Materials, Equipment or Plant, the Contractor shall notify the Engineer with a copy to the Engineer, as soon as he becomes aware of such damage or as soon as he receives any claim from the authority entitled to make such claim. Where under any law or regulation the hauler of such Materials, Equipment or Plant is required to indemnify the road authority against damage, the Engineer shall not be liable for any costs, charges or expenses in respect thereof or in relation thereto.

#### **4.16. Transport of Goods**

Unless otherwise stated in the Particular Conditions

- a) The Contractor shall give the Engineer not less than 21 days' notice of the date on which any Plant or a major item of other Goods will be delivered to the Site;
- b) The Contractor shall be responsible for packing, loading, transporting, receiving, unloading, storing and protecting all Goods and other things required for the Works; and
- c) The Contractor shall indemnify and hold the Employer harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from the transport of Goods, and shall negotiate and pay all claims arising from their transport.

- d) The Contractor shall request the Engineer's permission to deliver any item or



Goods to the Site. No Goods shall be delivered without this permission, which shall not relieve the Contractor from any obligation.

Existing roads and other public roads may be used by the Contractor at his risk and cost to carry out construction activities, with prior approval of the concerned authority.

The Contractor's heavy construction traffic or tracked equipment shall not travel on any public road or bridge, unless the Contractor has made arrangements with the authority concerned and has obtained the approval of the Engineer to such arrangements. The Contractor shall include in his price the cost of strengthening any such public road or bridge if he considers it would be necessary

The Contractor shall repair any damage to the road or bear the cost thereof due to movement of contractor's plants and equipment, vehicles etc. to the specifications and satisfaction of road authorities as well as of Engineer.

The Contractor shall plan transportation of construction materials to work site in accordance with traffic regulations enforced by local traffic authorities from time to time and in such a way that road accidents are avoided.

No claim whatsoever shall be entertained on this account. The transportation of certain plant, equipment and materials may not be possible during the daytime and may have to be carried out within a time schedule as specified by the traffic police.

No extra payment will be made for construction and maintenance of temporary haul roads if any needed including any special protection or strengthening required and all cost of such works shall be deemed to have been included in the costs of items contained in the Pricing Documents.

The Contractor shall be responsible for the coordination and carrying out all necessary road works as per MORTH Specification and these works shall include, but are not limited to, the following:

- i. Roads works including new roads, strengthening / widening of existing roads, road diversions including repairs and making up diversion works, new utility diversions, dismantling of central verges, footpaths, railings, drains etc. and any other work;
- ii. Landscaping works around buildings such as car parking, earth filling, footpath, kerb stones, horticulture etc., and
- iii. Any other work as per site requirement as stated in the Contract or as instructed by the Engineer.

#### **4.17. Contractor's Equipment**

The Contractor shall be responsible for all Contractors' Equipment. When brought on to the Site, Contractor's Equipment shall be deemed to be exclusively intended for the execution of the Works. The Contractor shall not remove from the Site any major items of Contractor's Equipment without the consent of the Engineer. However, such consent shall not be required for vehicles

#### **4.18. Protection of the Environment**

The Contractor shall take all reasonable steps to protect the environment (both on and off the Site) and to limit damage and nuisance to people and property resulting from pollution, noise and other results of his operations.

The Contractor shall ensure that emissions, surface discharges and effluent from the Contractor's activities shall not exceed the values indicated in the Employer's Requirements or prescribed by applicable Laws.

#### **4.19. Electricity, Water and Gas**

The Contractor shall be responsible for the provision of all power, water and other services he may require for his construction activities and to the extent defined in the

Employer's Requirements, for the tests and commissioning. It shall be the responsibility of the Contractor to make his own arrangement for obtaining water and power at his cost. The power required for testing and commissioning of fulfilling Contract will be at contractor cost.

- The Contractor shall make his own arrangements for the supply of good quality potable water at Site, for his labour at Site, and all charges for water shall be borne by the Contractor.
- Facilities for Construction Water shall be arranged by the Contractor at his own cost. The Contractor shall be permitted to dig borewells at the working site upon obtaining prior permission/clearance from the Engineering Consultant/Client.
- Electricity required for construction shall be arranged by the Contractor himself. Electricity if supplied to the Contractor by the Employer, will be metered and amount will be recovered in the Bills as per actual at rates fixed by the Employer. Supply of electricity from the Employer is not mandatory. Non-supply of electricity by the Employer cannot be held as reason for shortfall in progress.
- Only needful documents to avail construction power shall be issued by Employer. However, no applicable cost for deposits, cable costs, or any expenses incurred, shall be eligible for payment to Contractor. Any penalty levied by TNEB on account of such construction power connection, shall be recovered from Contractors bills. If for reasons, construction power is unavailable through TNEB, Contractor to arrange equivalent capacity of DG for construction needs. No relaxations or timelines admissible on account of power cuts in construction phase.
- The rate quoted in the tender shall also include electric charges for power and construction water. Contractor is responsible for availability of power and water at Site for construction. No delay will be acceptable for non-availability of power and water.

#### **4.20. Employer's Equipment and Free-Issue Material**

The Employer shall make the Employer's Equipment (if any) available for the use of the Contractor in the execution of the Works in accordance with the details, arrangements and prices stated in the Employer's Requirements. Unless otherwise stated in the Employer's Requirements:

- a) The Employer shall be responsible for the Employer's Equipment, except that
- b) The Contractor shall be responsible for each item of Employer's Equipment whilst any of the Contractor's Personnel is operating it, driving it, directing it or in possession or control of it.

The appropriate quantities and the amounts due (at such stated prices) for the use of Employer's Equipment shall be agreed or determined by the Engineer in accordance with Sub-Clause 2.4 [Employer's Claims] and Sub-Clause 3.5 [Determinations]. The Contractor shall pay these amounts to the Employer.

The Employer shall supply, free of charge, the "free-issue materials" (if any) in accordance with the details stated in the Employer's Requirements. The Employer shall, at his risk and cost, provide these materials at the time and place specified in the Contract. The Contractor shall then visually inspect them, and shall promptly give notice to the Engineer of any shortage, defect or default in these materials. Unless otherwise agreed by both Parties, the Employer shall immediately rectify the notified shortage, defect or default.

After this visual inspection, the free-issue materials shall come under the care, custody and control of the Contractor. The Contractor's obligations of inspection, care, custody

and control shall not relieve the Employer of liability for any shortage, defect or default not apparent from a visual inspection.

#### **4.21. Progress Reports**

Unless otherwise stated in the Particular Conditions, monthly progress reports shall be prepared by the Contractor and submitted to the Engineer in four hard copies. The first report shall cover the period up to the end of the first calendar month following the Commencement Date. Reports shall be submitted monthly thereafter, each within 7 days after the last day of the period to which it relates.

Reporting shall continue until the Contractor has completed all work which is known to be outstanding at the completion date stated in the Taking-Over Certificate for the Works.

Each report shall include:

- a) Charts and detailed descriptions of progress, including each stage of procurement, manufacture, delivery to Site, construction, erection, testing, commissioning and trial operation;
- b) Photographs showing the status of manufacture and of progress on the Site;
- c) For the manufacture of each main item of Plant and Materials, the name of the manufacturer, manufacture location, percentage progress, and the actual or expected dates of:
  - i. Commencement of manufacture,
  - ii. Contractor's inspections,
  - iii. tests, and
  - iv. shipment and arrival at the Site;
- d) The details described in Sub-Clause 6.10 [Records of Contractor's Personnel and Equipment];
- e) Copies of quality assurance documents, test results and certificates of Materials;
- f) List of Variations, notices given under Sub-Clause 2.4 [Employer's Claims];
- g) Safety statistics, including details of any hazardous incidents and activities relating to environmental aspects and public relations; and
- h) Comparisons of actual and planned progress, with details of any events or circumstances which may jeopardize the completion in accordance with the Contract, and the measures being (or to be) adopted to overcome delays.

#### **Cash Flow Estimate**

The Contractor shall furnish to the Engineer, a detailed cash flow estimate together with an "S" curve, in respect of the works, within 28 days from the Commencement Date. This shall be up-dated and submitted every subsequent, three (3) months, thereafter until the completion of the works.

#### **Photographs and Video CD/DVD**

The Contractor shall take photos and video from the locations approved by the Engineering Consultant/ Employer or its Representative to show the progress of work at monthly intervals throughout the construction period and furnish photographs and video CD/DVD's of required duration duly indicating therein the specified number of prints affixed in albums. Each photograph shall be marked with the description of the photograph and- location from which it was taken.

The ownership and copy right of all Photographs shall be vested in the Owner and are not to be used without his permission under any circumstances. Photographs and prints shall be handed over to the Engineering Consultant/ Employer or its Representative monthly.

#### **4.22. Security of the Site**

Bidder's Stamp & Initials

Unless otherwise stated in the Particular Conditions:

- a) The Contractor shall be responsible for keeping unauthorized persons off the Site, and
- b) authorized persons shall be limited to the Contractor's Personnel and the Employer's Personnel; and to any other personnel notified to the Contractor, by the Employer or the Engineer, as authorized personnel of the Employer's other contractors on the Site.

#### **4.23. Contractor's Operations on Site**

The Contractor shall confine his operations to the Site, and to any additional areas which may be obtained by the Contractor and agreed by the Engineer as additional working areas. The Contractor shall take all necessary precautions to keep Contractor's Equipment and Contractor's Personnel within the Site and these additional areas, and to keep them off adjacent land.

During the execution of the Works, the Contractor shall keep the Site free from all unnecessary obstruction, and shall store or dispose of any Contractor's Equipment or surplus materials. The Contractor shall clear away and remove from the Site any wreckage, rubbish and Temporary Works which are no longer required.

Upon the issue of a Taking-Over Certificate, the Contractor shall clear away and remove, from that part of the Site and Works to which the Taking-Over Certificate refers, all Contractor's Equipment, surplus material, wreckage, rubbish and temporary works. The Contractor shall leave that part of the Site and the Works in a clean and safe condition. However, the Contractor may retain on Site, during the Defects Liability Period, such Goods as are required for the Contractor in order to fulfil obligations under the Contract.

#### **4.24. Fossils**

All fossils, coins, articles of value or antiquity, and any structures and other remains or items of geological or archaeological interest found on the Site shall be placed under the care and authority of the Employer. The Contractor shall take reasonable precautions to prevent Contractor's Personnel or other persons from removing or damaging any of these findings.

The Contractor shall, upon discovery of any such finding, promptly give notice to the Engineer, who shall issue instructions for dealing with it. If the Contractor suffers delay and/or incurs Cost from complying with the instructions, the Contractor shall give a further notice to the Engineer and shall be entitled subject to :

- a) An extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and payment of any such Cost, which shall be included in the Contract Price.

After receiving this further notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

#### **4.25. Schedule of Quantities, Technical Specifications and Drawings**

In case of discrepancy between "Bill of Quantities", "Technical specifications" and "Drawings" the following order of preference shall be observed:

- Bill of Quantities
- Technical Specifications
- Drawings
- TWAD/PWD of Tamil Nadu state /TNBP
- CPWD Specifications
- Indian Standard Specifications of B.I.S
- Manufacturers recommendations

**4.26. Joint Inspection**

Engineering Consultant / Employer or its Representative shall conduct a joint inspection with the Contractor's authorised Representative at every stage of the work, immediately upon completion of such stage of works. The purpose of the joint inspection is to observe and record any deviations from the specified tolerances / levels, plumb or any quality defects or any such issues which require immediate attention / action from the Contractor to make good or rectify such defects or observations jointly recorded. Such joint inspections can be held at any time as deemed fit and be binding on the Contractor to act upon and implement without any extra cost the directions arising out of such joint inspections. Failure / delay in holding such joint inspections shall not absolve the Contractor from his responsibilities to rectify any defects which may be subsequently noticed at any time after the respective stages of work.

**4.27. Bill of Quantities**

- a) The Bill of Quantities given in Contract Bill is provisional and is meant to indicate the intent of the work and to provide a uniform basis for tendering. The Owner reserves the right to increase or decrease any of the quantities or to totally omit any item of work and the BIDDER shall not claim any extras or damages on these grounds. Any error in description or in quantity or omission of items from the Contract Bill shall not vitiate this Contract but shall be treated as a variation.
- b) The Bill of Quantities shall contain items for the supply, installation, testing, and commissioning work to be done by the BIDDER.
- c) The Bill of Quantities is used to calculate the Contract Price. The BIDDER is paid for the quantity of the work done at the rate in the Bill of Quantities for each item.
- d) The contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his tender for the works and of the prices stated in the schedule of quantities and/or the schedule of rates and prices which rates and prices shall cover all his obligations under the contract, and all matters and things necessary for the proper completion of the works.

**4.27A. Taking Measurements**

The PMC may from time to time intimate to the contractor that he requires the works to be measured and the contractor shall forthwith attend and send a qualified agent to assist the PMC in taking such measures, measurements and calculations and to furnish the particulars or to give all assistance required by either of them.

Should the contractor fail to attend or neglect or omit to send such Agent then the measurement taken by the PMC shall be taken to be correct measurements of the works. Such measurement shall be taken in accordance with the standard method of measurement for building works.

The contractor or his agent may at the time of measurement take such note and measurements as he may require.

All authorised extra works, omissions and all variations made without the PMC/Employer's knowledge, if subsequently sanctioned by the Employer in writing shall be included in such measurements.

**4.28. Guarantees / Warranties**

- a) Wherever in this specification guarantees / warranties are called for the BIDDER shall obtain a written guarantee addressed to the Employer from the firm supplying the materials or doing the work or both, and shall deliver this to Engineering Consultant/ Employer or its Representative.

The guarantees shall be valid for at least the period specified measured from the

date of Completion of the works (and not unless they coincide, the date of completion of the works relevant subcontract) and any defect which shall arise during this period shall be made good and any expense or other work entailed by either defects or the making good old defects shall be borne by the guarantor. Guarantees will not be enforced by the Engineering Consultant/ Employer or its Representative during the Defects Liability Period during which time the relevant provisions of the Conditions of Contract shall apply.

- b) Besides guarantees required elsewhere, the BIDDER shall guarantee the work in general for one year as noted under the Conditions DLP.

All required guarantees shall be submitted to Engineering Consultant/ Employer or its Representative by the BIDDER when requesting certification of accounts for payment by the Employer.

#### **4.29. Deleted**

#### **4.30. Co-operation with other BIDDER**

The successful Bidder must co-operate with the other Contractors appointed by the Owner so that the work shall proceed smoothly with least possible delay and to the satisfaction of the Engineering Consultant / Employer or its Representative.

#### **4.31. Compliance of requirements of Local / Public Authorities**

The successful Bidder must bear in mind that all the work shall be carried out strictly in accordance with the Specifications and also in compliance of the requirements of the local/ public authorities and to the requirements of Owner and no deviation on any account will be permitted. The Bidder shall co-ordinate with Engineering Consultant / Employer or its Representative & pay for & have issued all local bodies clearances necessary to carry out the works at Site of works. All fees & incidental expenses, if any shall be deemed to have been considered for in BIDDERS pricing & therefore no extra claims by BIDDERS on these grounds shall be payable by the owner. Further, delay in obtaining any of the local bodies clearances, shall not the qualify the BIDDER for any extension of time.

#### **4.32. No Conditional Tender**

TIDEL PARK Limited., discourages stipulation of additional conditions by the Bidders, as they are expected to accept the various provisions and conditions in the Tender documents. No conditional offer will be accepted.

### **5. Temporary Works Design**

#### **5.1. General Design Obligations**

The Engineering Consultant for the work shall supply all Good for Construction Drawings to the Contractor from time to time as per construction schedule. Based on the GFC drawings the contractor has to prepare Shop drawings.

The Contractor shall carry out all the work strictly in accordance with Drawings, details and instructions of Engineering Consultant / Employer or its Representative. If in the opinion of the Engineering Consultant / Employer or its Representative changes have to be made in the design and with the prior approval in writing of the Engineering Consultant / Employer they desire the Contractor to carry out the same, the Contractor carry out the same without any extra charge. Engineering Consultant / Employer or its Representative's decision in such cases shall be final and binding on the Contractor.

#### **5.2. Contractor's Documents**

The Contractor's Documents shall comprise the technical documents specified in the Employer's Requirements, documents required to satisfy all regulatory approvals, and the documents described in Sub-Clause 5.6 [As-Built Documents] and Sub-Clause [Operation and Maintenance Manuals]. Unless otherwise stated in the Employer's Requirements, the Contractor's Documents shall be written in the language for



communications defined in Sub-Clause 1.4 [Law and Language].

The Contractor shall prepare all Contractor's Documents, and shall also prepare any other documents necessary to instruct the Contractor's Personnel. The Employer's Personnel shall have the right to inspect the preparation of all these documents, wherever they are being prepared. Temporary works Design is responsibility of Contractor. All Temp work to be proof checked by Third party (Designer).

If the Employer's Requirements describe the Contractor's Documents which are to be submitted to the Engineer for review and/or for approval, they shall be submitted accordingly, together with a notice as described below. In the following provisions of this Sub-Clause, (i) "review period" means the period required by the Engineer for review and (if so specified) for approval, and (ii) "Contractor's Documents" exclude any documents which are not specified as being required to be submitted for review and/or for approval.

Unless otherwise stated in the Employer's Requirements, each review period shall not exceed 21 days, calculated from the date on which the Engineer receives a Contractor's Document and the Contractor's notice. This notice shall state that the Contractor's Document is considered ready, both for review (and approval, if so specified) in accordance with this Sub-Clause and for use. The notice shall also state that the Contractor's Document complies with the Contract, or the extent to which it does not comply.

The Engineer may, within the review period, give notice to the Contractor that a Contractor's Document fails (to the extent stated) to comply with the Contract. If a Contractor's Document so fails to comply, it shall be rectified, resubmitted and reviewed (and, if specified, approved) in accordance with this Sub-Clause, at the Contractor's cost.

For each part of the Works, and except to the extent that the prior approval or consent of the Engineer shall have been obtained:

In the case of a Contractor's Document which has (as specified) been submitted for the Engineer's approval:

The Engineer shall give notice to the Contractor that the Contractor's Document is approved, with or without comments, or that it fails (to the extent stated) to comply with the Contract;

Execution of any such part of the Works shall not commence until the Engineer duly has approved the Contractor's Document; and

The Engineer shall be deemed to have approved the Contractor's Document upon the expiry of the review periods for all the Contractor's Documents which are relevant to the design and execution of such part, unless the Engineer has previously notified otherwise in accordance with sub-paragraph(i);

Execution of such part of the Works shall not commence prior to the expiry of the review periods for all the Contractor's Documents which are relevant to its design and execution;

Execution of such part of the Works shall be in accordance with these reviewed (and, if specified, approved) Contractor's Documents; and

If the Contractor wishes to modify any design or document which has previously been submitted for review (and, if specified, approval), the Contractor shall immediately give notice to the Engineer. Thereafter, the Contractor shall submit revised documents to the Engineer in accordance with the above procedure.

If the Engineer instructs that any further Contractor's Documents are required, the Contractor shall prepare them promptly. Any such approval or consent, or any review

(under this Sub-Clause or otherwise), shall not relieve the Contractor from any of his Obligations, liabilities or responsibilities.

### **Shop Drawings / Coordination Drawings / Record Drawings**

After the award of contract, the BIDDER shall furnish samples / shop drawings for the approval of the Engineering Consultant / Employer or its Representative / Employer Engineer with such promptness as to come no delay in his work or in that of any other Sub Contractor. Sample / Shop Drawings shall be delivered as directed by Engineering Consultant / Employer or its Representative. The Bidder shall prepare shop drawings based upon the tender/construction drawings issued by the Engineering Consultant. The work shall be carried out only in accordance with the approved Shop drawings.

Drawings for approval, which is also referred to as “Shop Drawings” elsewhere, shall be submitted to the Engineering Consultant for approval. Once approval has been obtained these drawings shall be deemed to be final drawings to which the plant/installation shall be manufactured and installed.

The Engineering Consultant / Employer or its Representative shall check and approve such sample / Shop Drawings as mentioned in the schedule with reasonable promptness conformity with design concept of the project for compliance with information in the contract documents and technical Specification. The work shall be in accordance with approved Sample / Shop Drawings. For all items of works the Bidder shall arrange to prepare fully detailed shop drawings / fabrication drawings and material specifications for specialist works and submit the same in adequate hard copies for Engineering Consultant / Employer OR Its Representative for approval along with soft copy in the CD. All shop drawings shall reflect the design intent as provided in the construction/tender drawings and shall not be deviated without prior permission. The shop drawings shall be based on the actual site conditions and shall take into account all coordination as may be required in order to avoid any clash or interference with other service lines or any other building features. The shop drawings shall be fully supported by necessary design calculations wherever applicable or as directed by the ENGINEERING CONSULTANT / EMPLOYER OR ITS REPRESENTATIVE. Such design calculations shall be carried out by a competent agency and shall also comply with relevant Indian / International standards as applicable. Wherever so required, the Owner reserves the right to demand a certificate as to the correctness of the design to be issued after verification by an independent proof checking agency whom the Owner may either approve or nominate.

All charges for preparing the shop drawings, coordination drawings, preparation of design, getting the same proof checked including carrying out any other modifications as necessary shall be fully covered in the quoted rates and no extra shall be payable for adherence of the above requirement. BIDDER shall also be required to submit within one month of completion of respective works, fully detailed As-Built drawings to explain the installation in totality. Such as-built drawings shall be submitted by the BIDDER to the Engineering Consultant / Employer or its Representative in Triplicate. After scrutiny and-observations by the Engineering Consultant / Employer or its Representative, the drawing given shall be required to be obtained for a final amended as-built drawing and the final version thereof submitted in hard copy format in Triplicate as well as electronic format in AutoCAD and PDF in CD.

Working drawings and shop drawings shall be furnished by the Bidder for all Architectural, Electrical, Mechanical, Fire Protection, Plumbing, Structural steel works, Specialist Structural works, Special formwork and staging, specialized trades in architectural and finishing works and all such works as the Specification calls for and as required by the Engineer/Employer.

The shop/working drawings submitted for approval shall be accompanied by or provided



with calculations and computations justifying the strength and stability, the sizing of the components, and the like that are shown on the submitted drawings

Drawings for approval shall consist of, but not be limited to the following:

- a. Unit Arrangement Drawings
- b. Fully detailed and dimensioned drawings of each major components of the works for which the drawings are prepared.
- c. Sectional Arrangement Drawings.
- d. Fully detailed sectional view of the major components indicating the name, material and specification of each component.
- e. Wherever required by the specification, design drawings shall be accompanied by appropriate calculations establishing that the structure or the Temporary works so designed shall withstand all the anticipated loads and satisfies the criteria and the intended purpose.
- f. General Arrangement Drawings of formwork.
- g. These shall consist of a plan, together with such elevations that are deemed necessary to give a clear and precise indication of the works as it is to be installed.
- h. All these drawings shall be fully dimensioned.
- i. Contractor shall submit approved 6 set of Colour hardcopies of (A0 / A1 size) shop drawings and 6 Set of approved technical data sheets to PMC/ Employer

Any amendments to the drawings consequent upon the coordination of the various installations shall be made by the Contractor prior to such shop drawings being submitted to the Engineer/Employer for approval.

All shop drawings prepared by the Contractor, shall be submitted, in accordance with the Approved Construction Schedule and this will be the only accepted and contractual method. The Engineer/Employer shall review and approve these drawings and issue them to the Contractor as “Approved. Proceed with Fabrication/Construction”. Such approval shall not relieve the Contractor of his responsibility for any discrepancies, errors or omissions in his submittals.

If the Engineer/Employer shall instruct the re-drawing, alteration or amending or any of the submitted drawings, which in his sole opinion, do not properly interpret the intent of the contract or for any reason do not comply with good construction practice, then the Contractor shall ensure the carrying out of the Engineer/Employer's instructions and no claim for extra time or payment shall be allowed for any reason in this respect.

The Contractor shall prepare a detailed program for the production of the shop drawings immediately upon receipt of the Engineer/Employer's order to commence the works. The programme, which will be subject to the scrutiny of the Engineer/Employer, shall be compatible with the programme for the construction works.

All shop drawings shall be oriented to match with the drawings given by PMC /Employer and shall have a key plan identifying the location or area of the Works to which they apply.

When a shop drawing is revised, the particulars of the current revision shall be clearly marked or circled to facilitate checking. All prior revision numbers and references of drawings possibly superseded by the current issue shall also be clearly shown.

When the drawings are submitted for approval without complying with these requirements, they may be rejected.

**Record Drawings:**

The BIDDER shall make accurate records of those parts of the Works which will become hidden by further progress, as may be directed by the ENGINEERING CONSULTANT / EMPLOYER OR ITS REPRESENTATIVE. Such records shall be checked and verified by the ENGINEERING CONSULTANT / EMPLOYER OR ITS REPRESENTATIVE while the work is open for inspection. Records shall be entered by the BIDDER on prints of drawings which will be made available to him for this purpose, amplified by him with supplementary dimensioned sketches and handed to the ENGINEERING CONSULTANT / EMPLOYER OR ITS REPRESENTATIVE as soon as practicable. All costs and expenses in connection therewith shall be borne by the BIDDER.

**5.3. Contractor's Undertaking**

The Contractor undertakes that, the Contractor's Documents, the execution and the completed Works will be in accordance with:

- a) The Laws in the Country, and
- b) Any Variations as altered or modified in the documents forming the Contract,.

**5.4. Technical Standards and Regulations**

The design, the Contractor's Documents, the execution and the completed Works shall comply with the Country's technical standards, building, construction and environmental Laws, and any Laws that are applicable to the product being produced from the Works, and any other standards specified in the Employer's Requirements, applicable to the Works, or defined by the applicable Laws.

All these Laws shall, in respect of the Works and each Section, be those prevailing when the Works or Section are taken over by the Employer under Clause 10 [Employer's Taking Over]. References in the Contract to published standards shall be understood to be references to the edition applicable on the Base Date, unless stated otherwise.

If any changes or new applicable standards come into force in the Country after the Base Date, the Contractor shall give notice to the Engineer and (if appropriate) submit proposals for due compliance. In the event that:

- a) The Engineer determines that compliance is required, and
- b) The proposals for compliance constitute any variation, then, the Engineer shall initiate steps for a Variation in accordance with Clause 13 [Variations and Adjustments].

**5.5. Training**

The Contractor shall carry out the necessary training of Employer's Personnel in the operation and maintenance of the Works to the extent specified in the Employer's Requirements. If the Contract specifies training which is to be carried out before taking-over, the Works shall not be considered to be completed for the purposes of taking-over under Sub-Clause 10.1 [Taking Over of the Works and Sections] until this training has been completed.

**5.6. As-Built Documents**

The Contractor shall prepare, and keep up-to-date, a complete set of "as-built" records of the execution of the Works, showing the exact as- built locations, sizes and details of the work as executed. These records shall be kept on the Site and shall be used exclusively for the purposes of this Sub-Clause. Two copies (Soft & Hard copies) shall be supplied to the Engineer prior to the commencement of the Tests on Completion.

In addition, the Contractor shall supply (Soft & Hard copies) to the Engineer as- built drawings of the Works, showing all Works as executed, and submit them to the Engineer for review under Sub-Clause 5.2 [Contractor's Documents].

The Contractor shall obtain the consent of the Engineer as to their size, the referencing system, and other relevant details.

**a) As Built drawings & Maintenance Manuals**

Upon completion of works, all the Shop drawings / drawings by Contractor shall be amended as per the work actually executed at site. Three sets of as built drawings in hard copy & further one PDF format copied on to a CD shall be issued by BIDDERS to owners upon completion of the contract.

On completion of the Work, the Contractor shall submit required details and “Mark- up” of changes if any in all Drawings of the project to the Engineer/Employer. The Contractor shall render all required assistance in getting the As-Built drawings prepared from the concerned Interfacing Agencies. These drawings shall include and show all the changes / deviations made from the working drawings during the course of construction and also the other details as called for by the Engineer/Employer.

Adequate records shall be kept at site during the construction to ensure the accuracy of the final drawings.

The Contractor shall not be entitled to any extra payment or extension of time for correction, preparation and supplying of the drawings.

If the BIDDER does not supply the Drawings and / or manuals by the dates stated in the Contract Data, or they do not receive Engineering Consultant/ Employer or its Representative's approval, Engineering Consultant/ Employer or its Representative shall withhold the amount stated in the Contract Data from payments due to BIDDER.

**5.7. Document Error**

If any errors, omissions, ambiguities, inconsistencies, inadequacies or other defects are found in the Contractor's Documents, they and the Works shall be corrected at the Contractor's cost, notwithstanding any consent or approval under this Clause.

- a) Between scaled and written dimension (or description) on a drawing, the later shall be adopted.
- b) Between the written or shown description and dimensions in the Drawings and the corresponding one in the Specification, the former shall be taken as correct.
- c) In case of conflict between the description of the item in the Specifications and descriptions in the Bill of Quantities of the same item, the later shall govern.
- d) Between Specifications and Drawings, the drawings shall prevail.

In case of discrepancy between the quoted rates in figures and in words, the lower value of two shall be considered.

In the case of any class of work for which there is no specifications as referred in tender, such work shall be carried out in accordance with the Bureau of Indian Standards Specifications. In case there are no such specifications in Bureau of Indian Standards, the work shall be carried out as per manufacturers' specifications with approval of PMC/Employer. If not available, then the work shall be carried out in all respects in accordance with the instructions and requirements of the PMC/Employer.

**5.8. Operation & Maintenance Manual**

The Contractor shall supply the Operation and Maintenance documentation in respect of the systems and equipment supplied or installed or modified under the Contract in accordance with the requirements of the following clauses, except where expressly specified otherwise in the Contract.

All Operation and Maintenance Manuals produced by the Contractor shall conform to the requirements of the Employer. The Contractor shall interface / interact with the Employer for the requisite format.

The Operation and Maintenance Manuals shall be provided in the English language.

The Contractor shall fully co-ordinate and cross-reference with interfaces and areas associated with interconnecting equipment and systems within the Contract. The Operation and Maintenance Manuals shall fully describe the overall operation of all systems incorporating all equipment's.

The Operation and Maintenance Manuals shall not contain any irrelevant or ambiguous information but shall relate specifically to this Contract.

The Contractor may use manufacturer's data and handbooks for individual items of equipment that are a sub-component of the overall system, including printed circuit boards, provided they meet the intent of the Specification, and are integrated by the Contractor into the description of his equipment, and are indexed accordingly in his own general index. All such documentation shall be contained in similar binders.

Where a sub-assembly item is of such a nature that local repairs in Chennai/India cannot be made and it is necessary to be returned to the manufacturer as a unit for overhaul, the specific information with respect to its repair and any breakdown into component parts shall be provided. The documents shall be collated and numbered in proper order and correspond to the contents and index tables. Nomenclature or references to any items of equipment, diagrams, figure numbers or units shall be consistent throughout the text. In order to comprehend the text, relevant diagrams, drawings, sketches and actual photographs shall be added where ever necessary. All manufacturers' literature, identification codes or stamp markings shall be omitted. Precautions and warnings regarding the safety of life and equipment shall be included where ever applicable.

**a) Arrangement and Format of Manuals**

The Contractor shall arrange all documentation in accordance with the Work's Requirements.

The Contractor shall provide documentation for all hardware and software for computer systems and other associated electronic equipment to meet the following requirements. And such documents shall include, but not be limited to,

- (a) Manufacturers' documentation supplied as standard with the equipment;
- (b) Hardware configuration with details of expansion capabilities and options;
- (c) Programme loading instructions, including runtime environment configuration;
- (d) Configuration management documentation
- (e) Programme listing including comprehensive 'comment statements' in hard copy and soft format for source code, compilers and development tools necessary to modify and recompile software;
- (f) Flow charts, data flow diagrams and state diagrams as appropriate;
- (g) Description of software modules including purpose, linkage with other modules, error routines and any special considerations;
- (h) Memory maps for both internal and peripheral memory showing description of all programmes, data files, overlay areas, memory available for expansion and the like;
- (i) Loading and operating instructions for diagnostic programmes and specifically developed debugging tools; and
- (j) Programming manuals relevant to operating systems, languages, Development environment and any required tools, etc.

The documentation shall in all respects be entirely sufficient to allow any competent software programming organization to undertake programme and/or system modifications without recourse to the Contractor. These requirements shall also apply in respect of microprocessor based equipment and 'firmware'.

**6. Staff & Labour****6.1. Engagement of Labour**

Except as otherwise stated in the Employer's Requirements, the Contractor shall make arrangements for the engagement of all staff and labour, local or otherwise, and for their payment, feeding, transport and appropriate housing as required.

**The Contractor is encouraged, to the extent practicable and reasonable, to employ staff and labour with appropriate qualifications and experience from sources within the Country.**

**6.2. Rates of Wages and Conditions of Labour**

The Contractor shall pay rates of wages, and observe conditions of labour, which are not lower than those established for the trade or industry where the work is carried out. If no established rates or conditions are applicable, the Contractor shall pay rates of wages and observe conditions which are not lower than the general level of wages and conditions observed locally by employers whose trade or industry is similar to that of the Contractor.

The Contractor shall inform the Contractor's Personnel about their liability to pay personal income taxes in the Country in respect of such of their salaries, wages, allowances and any benefits as are subject to tax under the Laws of the Country for the time being in force, and the Contractor shall perform such duties in regard to such deductions thereof as may be imposed on him by such Laws.

**6.3. Persons in the Service**

The Contractor shall not recruit, or attempt to recruit, staff and labour from amongst the Employer's (Owner's) Personnel.

**6.4. Labour Laws**

The Contractor shall comply with all the relevant labour Laws applicable to the Contractor's Personnel, including Laws relating to their employment, health, safety, welfare, immigration and emigration, and shall allow them all their legal rights.

The Contractor shall require his employees to obey all applicable Laws, including those concerning safety at work.

**Claim on account of violation of Labour Laws**

The Contractor shall be solely accountable for the violation of any Labour Laws by themselves or their sub-contractors and will pay any such claim/damage to the authorities forthwith on demand. If any moneys shall, as a result of any instructions, directions or decisions from the Authorities or claim or application made under any of the labour laws or regulations, be directed to be paid by the Employer, such moneys shall be deemed to be moneys payable to the Employer by the Contractor and he will pay the same to the Employer forthwith on demand, without demur and without asking for any reasons/explanations from the Employer. On failure of the Contractor to repay the Employer any moneys paid or to be paid by it as aforesaid within seven days after the same shall have been demanded, the Employer shall be entitled to recover the amount from any moneys due or accruing to the Contractor under this or any other Contract with the Employer.

**Registration with Labour Department.**

The Contractor shall formally register with the appropriate Labour Department as the main employer of labour for this Contract, so that any issues related to labour can be issued directly to the Contractor. A copy of the registration document, and any directives

issued by the Labour Department, shall be copied to the Employer's Representative

#### **6.5. Working Hours**

Subject to any provision to the contrary contained in the Contract none of the permanent work shall save as herein provided be carried on during the night or on Holidays without the permission in writing of the Engineer/Employer, save when the work is unavoidable or absolutely necessary for the saving of life or property or for the safety of the Works in which case the Contractor shall immediately advise the Engineer. Provided always that the provisions of this clause shall not be applicable in the case of any work, which becomes essential to carry out by rotary or double shifts in order to achieve the progress & quality of the part of the Works being technically required/continued with the prior approval of the Engineer/Employer. All work at night shall be carried out without unreasonable noise and disturbance and with the approval of the Engineer/Employer and in addition that of the local authority, if so applicable. The Contractor shall not be paid extra for the works executed during night or on holidays. The Contractor shall indemnify the Employer from and against any liability for damages on account of noise or other disturbance created while or in carrying out the work and from and against all claims, demands, proceedings, costs, charges and expenses whatsoever in regard or in relation to such liability.

#### **6.6. Facilities for Staff & Labour**

Except as otherwise stated in the Employer's Requirements, the Contractor shall provide and maintain all necessary accommodation and welfare facilities for the Contractor's Personnel. The Contractor shall also provide facilities for the Employer's Personnel as stated in the Employer's Requirements.

The Contractor shall not permit any of the Contractor's Personnel to maintain any temporary or permanent living quarters within the structures forming part of the Permanent Works.

#### **6.7. Health & Safety**

The Contractor shall at all times take all reasonable precautions to maintain the health and safety of the Contractor's Personnel. In collaboration with local health authorities, the Contractor shall ensure that medical staff, first aid facilities, sick bay and ambulance service are available at all times at the Site and at any accommodation for Contractor's and Employer's Personnel, and suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of any epidemics.

The Contractor shall appoint an accident prevention officer at the Site, responsible for maintaining safety and protection against accidents. This person shall be qualified for this responsibility, and shall have the authority to issue instructions and take such necessary protective measures in order to prevent accidents. Throughout the execution of the Works, the Contractor shall provide whatever is required by this person to carry out this responsibility and exercise his authority.

The Contractor shall send to the Engineer, details of any accident as soon as practicable after its occurrence. The Contractor shall maintain such records and make reports concerning health, safety and welfare of persons, and any damage to property, as the Engineer may reasonably require.

HIV-AIDS Prevention: The Contractor shall conduct an HIV-AIDS awareness programme via an approved service provider and shall undertake such other measures as are specified in this Contract in order to reduce the risk of the transfer of the HIV virus between and among the Contractor's Personnel and the local community and to promote early diagnosis and to assist affected individuals.



The Contractor shall throughout the contract (including the Defects Liability Period): conduct such Information, Education and Communication (IEC) campaigns, at least every other month, addressed to all the Site staff and labour (including all the Contractor's employees, all Subcontractors and any other Contractor's or Employer's personnel, and all truck drivers and crew making deliveries to Site for construction activities) and to the immediate local communities, concerning the risks, dangers and impact, and appropriate avoidance behaviour with respect to, of Sexually Transmitted Diseases (STD) -or Sexually Transmitted Infections (STI) in general and HIV/AIDS in particular; (ii) provide male or female condoms for all Site staff and labour as appropriate; and (iii) provide for STI and HIV/AIDS screening, diagnosis, counselling and referral to a dedicated national STI and HIV/AIDS programme, (unless otherwise agreed) of all Site staff and labour.

The Contractor shall include in the programme to be submitted for the execution of the Works under Sub-Clause 8.3 an alleviation programme for Site staff and labour and their families in respect of Sexually Transmitted Infections (STI) and Sexually Transmitted Diseases (STD) including HIV/AIDS. The STI, STD and HIV/AIDS alleviation programme shall indicate when, how and at what cost the Contractor plans to satisfy the requirements of this Sub-Clause and the related specification. For each component, the programme shall detail the resources to be provided or utilised and any related sub-contracting proposed. The programme shall also include provision of a detailed cost estimate with supporting documentation. Payment to the Contractor for preparation and implementation this programme shall not exceed the Provisional Sum dedicated for this purpose.

The Contract allows for continuous audits of the Contractor's compliance with his OHS&E Plan and the requirements of OHSE attached to Employer's Requirements.

No extra payment will be made for complying with the provisions of this clause and the cost of the work under this element is deemed to be included in the relevant payment item in the schedule of the Pricing Document

#### **6.8. Contractor's Superintendence**

Throughout the execution of the Works, and as long thereafter as is necessary to fulfill the Contractor's obligations, the Contractor shall provide all necessary superintendence to plan, arrange, direct, manage, inspect and test the work.

Superintendence shall be given by a sufficient number of persons having adequate knowledge of the language for communications (defined in Sub-Clause 1.4 [Law and Language]) and of the operations to be carried out (including the methods and techniques required, the hazards likely to be encountered and methods of preventing accidents), for the satisfactory and safe execution of the Works.

#### **6.9. Contractor's Personnel**

The Contractor's Personnel shall be appropriately qualified, skilled and experienced in their respective trades or occupations. The Engineer may require the Contractor to remove (or cause to be removed) any person employed on the Site or Works, including the Contractor's Representative if applicable, who:

- a) Persists in any misconduct or lack of care,
- b) Carries out duties incompetently or negligently,
- c) Fails to conform with any provisions of the Contract, or
- d) Persists in any conduct which is prejudicial to safety, health, or the protection of the environment.

If appropriate, the Contractor shall then appoint (or cause to be appointed) a suitable replacement person.

#### **6.10. Records of Contractor's Personnel and Equipment**

The Contractor shall submit, to the Engineer, details showing the number of each class of Contractor's Personnel and of each type of Contractor's Equipment on the Site. Details shall be submitted each calendar month, in a form approved by the Engineer, until the Contractor has completed all work which is known to be outstanding at the completion date stated in the Taking-Over Certificate for the Works.

#### **6.11. Disorderly Conduct**

The Contractor shall at all times take all reasonable precautions to prevent any unlawful, riotous or disorderly conduct by or amongst the Contractor's Personnel, and to preserve peace and protection of persons and property on and near by the Site.

#### **6.12. Foreign Personnel**

The Contractor may bring in to the Country any foreign personnel who are necessary for the execution of the Works to the extent allowed by the applicable Laws. The Contractor shall ensure that these personnel are provided with the required residence visas and work permits. The Employer will, if requested by the Contractor, use his best endeavours in a timely and expeditious manner to assist the Contractor in obtaining any local, state, national, or government permission required for bringing in the Contractor's personnel.

The Contractor shall be responsible for the return of these personnel to the place where they were recruited or to their domicile. In the event of the death in the Country of any of these personnel or members of their families, the Contractor shall similarly be responsible for making the appropriate arrangements for their return or burial.

#### **6.13. Supply of Food stuffs**

The Contractor shall arrange for the provision of a sufficient supply of suitable food as may be stated in the Employer's Requirements at reasonable prices for the Contractor's Personnel for the purpose of or in connection with the Contract.

#### **6.14. Supply of Water**

The Contractor shall, having regard to local conditions, provide on the Site for the adequate supply of drinking and other water for the use of the Contractor's Personnel.

#### **6.15. Measures against Insect & Pest Nuisance**

The Contractor shall at all times take the necessary precautions to protect the Contractor's Personnel employed on the Site from insect and pest nuisance, and to reduce any danger to their health. The Contractor shall comply with all the regulations of the local health authorities, including use of appropriate insecticides.

#### **6.16. Alcoholic Liquor or Drugs**

The Contractor shall not, otherwise than in accordance with the Laws of the Country, import, sell, give, barter or otherwise dispose of any alcoholic liquor or drugs, or permit or allow importation, sale, gift, barter or Personnel.

#### **6.17. Arms and Ammunition**

The Contractor shall not give, barter, or otherwise dispose of, to any person, any arms, or ammunition of any kind, or allow Contractor's Personnel to do so.

**6.18. Festivals and Religious Customs**

The Contractor shall respect the Country's recognized festivals, days, of rest and religious or other customs.

**6.19. Funeral Arrangements**

The Contractor shall be responsible, to the extent required by local regulations, for making any funeral arrangements for any of his local employees who may die while engaged upon the Work.

**6.20. Forced Labour**

The Contractor shall not employ "forced or compulsory labour" in any form. "Forced or compulsory labour" consists of all work or service, not voluntarily performed, that is extracted from an individual under any threat of force or penalty.

**6.21. Child Labour**

The Contractor shall not employ any child to perform any kind of work that is economically exploitative, or is likely to be hazardous to, or to interfere with, the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral, or social development. Where ever the relevant labour laws of the Country have provisions for employment of minors, the Contractor shall follow those laws as applicable to the Contractor. Children below the age of 18 years shall not be employed in dangerous work.

**6.22. Employment Records of Workers**

The Contractor shall keep complete and accurate records of the employment of labour at the Site. The records shall include the name, age, gender, hours worked and wages paid to all workers. These records shall be summarized on a monthly basis and submitted to the Engineer, and these records shall be available for inspection by Auditors during normal working hours. These records shall be included in the details to be submitted by the Contractor under Sub-Clause 6.10 [Records of Contractor's Personnel and Equipment].

**6.23. Worker's Organizations**

In countries where the relevant labour laws recognize worker's rights to form and to join workers' organizations of their choosing without interference and to bargain collectively, the Contractor shall comply with such laws. Where the relevant labour laws substantially restrict workers' organizations, the Contractor shall enable alternative means for the Contractor's Personnel to express their grievances and protect their rights regarding working conditions and terms of employment. In either case described above, and where the relevant labour laws are silent, the Contractor shall not discourage the Contractor's Personnel from forming or joining workers' organizations of their choosing or from bargaining collectively, and shall not discriminate or retaliate against the Contractor's Personnel who participate, or seek to participate, in such organizations and bargain collectively. The Contractor shall engage with such workers' representatives. Workers' organizations are expected to fairly represent the workers in the workforce.

**6.24. Non-Discrimination and Equal Opportunity**

The Contractor shall not make employment decisions on the basis of personal characteristics unrelated to inherent job requirements. The Contractor shall base the employment relationship on the principle of equal opportunity and fair treatment, and shall not discriminate with respect to aspects of the employment relationship, including recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment, access to training, promotion, termination of employment or

retirement, and discipline. In countries where the relevant labour laws provide for non-discrimination in employment, the Contractor shall comply with such laws. When the relevant labour laws are silent on non-discrimination in employment, the Contractor shall meet this Sub-Clause's requirements. Special measures of protection or assistance to remedy past discrimination or selection for a particular job based on the inherent requirements of the job shall not be deemed discrimination.

## **7. Plant, Materials and Workmanship**

### **7.1. Manner of Execution**

The Contractor shall carry out the Construction works, the production and manufacture of Materials, the procurement and all other execution of the Works:

- a) in the manner (if any) specified in the Contract,
- b) in a proper workmanlike and careful manner, in accordance with recognised good practice, and with properly equipped facilities and non-hazardous Materials, except as otherwise specified in the Contract.

### **7.2. Samples**

The Contractor shall submit the following samples of Materials, and relevant information, to the Engineer for review in accordance with the procedures for Contractor's Documents described in Sub-Clause 5.2 [Contractor's Documents]:

- a) manufacturer's standard samples of Materials and samples specified in the Contract, all at the Contractor's cost, and additional samples as instructed by the Engineer as a Variation.  
Each sample shall be labelled as to origin and intended use in the Works.

### **7.3. Access for Inspection**

The Employer's Personnel shall at all reasonable times:

- a) Have full access to all parts of the Site and to all places from which natural Materials are being obtained, and during production, manufacture and construction (at the Site and elsewhere), be entitled to examine, inspect, measure and test the materials and workmanship, and to check the progress of manufacture of Plant and production and manufacture of Materials.

The Contractor shall give the Employer's Personnel full opportunity to carry out these activities, including providing access, facilities, permissions and safety equipment. No such activity shall relieve the Contractor from any obligation or responsibility.

The Contractor shall give notice to the Engineer whenever any work is ready and before it is covered up, put out of sight, or packaged for storage or transport. The Engineer shall then either carry out the examination, inspection, measurement or testing without unreasonable delay, or promptly give notice to the Contractor that the Engineer does not require to do so. If the Contractor fails to give the notice, he shall, if and when required by the Engineer, uncover the work and thereafter reinstate and make good, all at the Contractor's cost

### **7.4. Inspection and Testing**

This Sub-Clause shall apply to all tests specified in the Contract, other than the Tests after Completion (if any).

- Except as otherwise specified in the Contract, the Contractor shall provide all apparatus, assistance, documents and other information, electricity, equipment, fuel,

consumables, instruments, labour, materials, and suitably qualified and experienced staff, as are necessary to carry out the specified tests efficiently. The Contractor shall agree, with the Engineer, the time and place for the specified testing of any Plant, Materials and other parts of the Works.

- The Engineer may, under Clause 13 [Variations and Adjustments], vary the location or details of specified tests, or instruct the Contractor to carry out additional tests. If these varied or additional tests show that the tested Plant, Materials or workmanship is not in accordance with the Contract, the cost of carrying out this Variation shall be borne by the Contractor, notwithstanding other provisions of the Contract.
- The Engineer shall give the Contractor not less than 24 hours' notice of the Engineer's intention to attend the tests. If the Engineer does not attend at the time and place agreed, the Contractor may proceed with the tests, unless otherwise instructed by the Engineer, and the tests shall then be deemed to have been made in the Engineer's presence.
- The Contractor shall promptly forward to the Engineer duly certified reports of the tests. When the specified tests have been passed, the Engineer shall endorse the Contractor's test certificate, or issue a certificate to him, to that effect.
- Factory Inspection and testing of Chillers, AHUs, Pumps, HT/LT Panels, Transformers, DG sets, Busduct, UPS and other major items at manufacturer's works is at discretion of the Engineer/Employer. Inspection team for the same may constituted by Engineer/Employer. No equipment shall be delivered without prior written confirmation from the Engineer/Employer. All expenses related to testing vendors works shall be to Contractor account. The Contractors Representative Shall also be part of the inspection team.
- No additional payment shall be made to the Contractor for inspection/testing at the manufacturer's works by the representative of the Engineer/Employer. Also the Contractor will bear the travel, boarding & lodging expenses of Engineer/Employer's representative deputed for carrying out factory inspection/testing.
- Tests on site of completed works shall demonstrate the following:
  - a. That the equipment installed complies with specification in all respect and is of the correct rating for the duty and site conditions
  - b. That all items operate efficiently and quietly to meet the specified requirements.
  - c. That all circuits are fully protected and that protective devices are properly coordinated.
  - d. That all non-current carrying metal parts are properly and safely grounded in accordance with the specification and appropriate Codes of Practice.
- The Contractor shall provide all necessary instruments and labour for testing, shall make adequate records of test procedures and readings, shall repeat any tests requested by the Engineer/Employer and shall provide test certificate signed by an authorised person. Such test shall be conducted on all materials and equipment and tests on completed work as called for by the Engineer/Employer at Contractor's expenses unless otherwise called for.
- If it is proved that the installation or part thereof is not satisfactorily carried out then the Contractor shall be liable for the rectification of the same. Engineer/Employer's decision as to what constitutes a satisfactory installation shall be final.

#### **7.5. Rejection**

If, as a result of an examination, inspection, measurement or testing, any Plant, Materials, design or workmanship is found to be defective or otherwise not in

accordance with the Contract, the Engineer may reject the Plant, Materials, design or workmanship by giving notice to the Contractor, with reasons. The Contractor shall then promptly make good the defect and ensure that the rejected item complies with the Contract.

If the Engineer requires this Plant, Materials, design or workmanship to be retested, the tests shall be repeated under the same terms and conditions at Contractor's cost. If the rejection and retesting cause the Employer to incur additional costs, the Contractor shall subject to Sub-Clause 2.4 [Employer's Claims] pay these costs to the Employer.

#### **7.6. Remedial Work**

Notwithstanding any previous test or certification, the Engineer may instruct the Contractor to:

- a) Remove from the Site and replace any Plant or Materials which is not in accordance with the Contract,
- b) Remove and re-execute any other work which is not in accordance with the Contract, and
- c) Execute any work which is urgently required for the safety of the Works, whether because of an accident, unforeseeable event or otherwise.

The Contractor shall comply with the instruction within a reasonable time, which shall be the time (if any) specified in the instruction, or immediately if urgency is specified under sub-paragraph (c).

If the Contractor fails to comply with the instruction, the Employer shall be entitled to employ and pay other persons to carry out the work. Except to the extent that the Contractor would have been entitled to payment for the work, the Contractor shall subject to Sub-Clause 2.4 [Employer's Claims] pay to the Employer all costs arising from this failure.

#### **7.7. Ownership of Plant and Materials**

Except otherwise specified in the Contract, each item of Plant and Materials shall, to the extent consistent with the Laws of the Country, become the property of the Employer at whichever is the earlier of the following times, free from any liens and other encumbrances:

- a) When it is incorporated in the Works;
- b) When the Contractor is paid the corresponding value of the Plant and Materials under Sub-Clause 8.10 [Payment for Plant and Materials in Event of Suspension]".
- c) All materials on the site, plant, Equipment, Temporary Works and Works are deemed to be the property of the Employer, if the Contract is terminated because of a BIDDER's default.

#### **7.8. Royalties**

Unless otherwise stated in the Employer's Requirements, the Contractor shall pay all royalties, rents and other payments for:

- a) natural Materials obtained from outside the Site

### **8. Commencement, Delays and Suspension**

#### **8.1. Commencement of Work**

Date of commencement shall be taken as the 15<sup>th</sup> day from the date of issue of Letter of



Award.

If the contractor fails to commence the work as instructed by Employer or fails to complete the entire work within 16 Months (Sixteen Months) from the date of commencement of work, Contractor shall be liable for all the damages and consequences arising there from and the same should be rectified by the contractor at his own risk and cost.

## **8.2. Completion**

The Contractor shall complete the whole of the Works, and each Section (if any), within the Time for Completion for the Works or Section (as the case may be), including:

- a) Achieving the passing of the Tests on Completion, and
- b) Completing all work which is stated in the Contract as being required for the Works or Section to be considered to be completed for the purposes of taking-over under Sub- Clause 10.1 [Taking Over of the Works and Sections].

### **Access for Others by Key Dates**

a) In addition to the Contractor's obligations to Interfacing Contractors contained elsewhere in the Contract, the Contractor shall provide access, occupation or handover to Interfacing Contractors to those parts of the Works which are subject to Key Dates, by the Key Dates.

b) The Contractor shall complete those parts of the Works, which are subject to Key Dates, by the Key Dates. Those parts of the Works subject to Key Dates shall be completed whereby any Interfacing Contractor can immediately commence his works without the need to make any change, addition or modification to the Contractor's Works.

c) In the event the Contractor fails to provide access, occupation or handover in accordance with the Contract to an Interfacing Contractor for any part of the Works which is subject to a Key Date by the Key Date, the Contractor shall pay to the Engineer the sum of money stated in Part A- Contract Data of Particular Conditions for every day which elapses between the Key Date and the date on which access, occupation or handover can be granted to an Interfacing Contractor in accordance with the requirements of the Contract.

d) The sums of money stated in Part A- Contract Data of Particular Conditions for the delay in granting access, occupation or handover to an Interfacing Contractor, represents the damages likely to be suffered by him if that part of the Works subject to the Key Date is not capable of having access, occupation or handover given to an Interfacing Contractor in accordance with the Contract by the Key Date.

e) The Employer's Representative acting reasonably shall issue a notice of no objection confirming the date on which any part of the Works subject to a Key Date is in the condition required by the Contract so that access, occupation or handover can be given to an Interfacing Contractor in accordance with the requirements of the Contract.

f) Key Dates may be extended in accordance with Clause 8.4 of the General Conditions.

g) The Contractor shall give written notice to the Engineer as soon as he can reasonably foresee an event occurring which is liable to cause any delay to the granting of access, occupation or handover in accordance with the Contract to an Interfacing Contractor by a Key Date. Such notice, which may, if applicable, be combined with a notice given in regard to the Works or any Section in accordance with Clause 8.4 of the General Conditions, shall not in any event be given later than 28 days after the commencement of such an event which is liable to cause delay to the Key Date.

h) At the time of giving notice of any delay in accordance with GC Clause 8.5, the Contractor shall provide the information required under GC Clause 8.3, to the extent applicable to the Key Date.

i) Once occupation is given to an Interfacing Contractor in accordance with this Condition of Particular Application clause, the Contractor shall only be given access to complete any outstanding work or defective work at the times agreed with the Interfacing Contractor who has occupation.

j) In addition to the obligation to give access, occupation or handover to parts of the Site to Interfacing Contractors, the Contractor shall at all reasonable times allow access to all of the Site to the Interfacing Contractors for the purposes of erecting catenary, laying cables, installing signaling and communications systems and all similar work.

k) The access and occupation referred to in this clause shall include for heavy vehicles at all times.

The Contractor shall allow for, and be deemed to have included all related costs, in the Contract Price for access, occupation or handover for Interfacing Contractors on a 7 days a week, 24 hours per day basis.

### **8.3. Programme**

The Contractor shall submit a detailed construction programme and get it's signed off from PMC/Employer within 14 days after receiving the Letter of Award. The Contractor shall also submit a revised programme whenever the previous programme is inconsistent with actual progress or with the Contractor's obligations. Each programme shall include:

- a) The order in which the Contractor intends to carry out the Works, including the anticipated timing of each stage of construction, procurement, inspection at manufacturer's factory, delivery to Site, erection, testing, commissioning and trial operation,
- b) the periods for reviews under Sub-Clause 5.2 [Contractor's Documents] and for any other submissions, approvals and consents specified in the Employer's Requirements,
- c) the sequence and timing of inspections and tests specified in the Contract, and a supporting report which includes:
  - i. a general description of the methods which the Contractor intends to adopt, and of the major stages, in the execution of the Works, and
  - ii. details showing the Contractor's reasonable estimate of the number of each class of Contractor's Personnel and of each type of Contractor's Equipment, required on the Site for each major stage.

Unless the Engineer, within 15 days after receiving a programme, gives notice to the Contractor stating the extent to which it does not comply with the Contract, the Contractor shall proceed in accordance with the programme, subject to his other obligations under the Contract. The Employer's Personnel shall be entitled to rely upon the programme when planning their activities.

The Contractor shall promptly give notice to the Engineer of specific probable future events or circumstances which may adversely affect the work, increase the Contract Price or delay the execution of the Works. The Engineer may require the Contractor to submit an estimate of the anticipated effect of the future event or circumstances, and/or

a proposal under Sub-Clause 13.3 [Variation Procedure].

If, at any time, the Engineer gives notice to the Contractor that a programme fails (to the extent stated) to comply with the Contract or to be consistent with actual progress and the Contractor's stated intentions, the Contractor shall submit a revised programme to the Engineer in accordance with this Sub-Clause

#### **8.4. Extension of Time for Completion**

The Contractor shall be entitled subject to an extension of the Time for Completion if and to the extent that completion for the purposes of Sub-Clause 10.1 [Taking Over of the Works and Sections] is or will be delayed by any of the following causes:

- a) a Variation (unless an adjustment to the Time for Completion has been agreed under Sub-Clause 13.3 [Variation Procedure]),
- b) a cause of delay giving an entitlement to extension of time under a Sub- Clause of these Conditions,
- c) exceptionally adverse climatic conditions,
- d) Unforeseeable shortages in the availability of personnel or Goods caused by epidemic or governmental actions, or
- e) any delay, impediment or prevention caused by or attributable to the Employer, the Employer's Personnel, or the Employer's other contractors.

If the Contractor considers himself to be entitled to an extension of the Time for Completion, the Contractor shall give notice to the Engineer. When determining each extension of time, the Engineer shall review previous determinations and may increase, but shall not decrease, the total extension of time.

#### **8.5. Delays Caused by Authorities**

If the following conditions apply, namely:

- a) the Contractor has diligently followed the procedures laid down by the relevant legally constituted public authorities in the Country,
- b) these authorities delay or disrupt the Contractor's work, and
- c) the delay or disruption was Unforeseeable, then this delay or disruption will be considered as a cause of delay under sub- paragraph (b) of Sub-Clause 8.4 [Extension of Time for Completion].

Notwithstanding the powers of the Engineer under the provisions of GC Clause 3.5(Determinations) to decide, in consultation with the Employer, whether the Contractor is fairly entitled to an extension of time, the Contractor shall not in any circumstances be entitled to an extension of time, if the relevant delay is caused directly or indirectly by the default of the Contractor, or by an event which is not expressly described in GC Clause 8.4 (Extension of Time for Completion). Without prejudice to the generality of the foregoing, the Contractor shall not be entitled to an extension of time, if the cause of the delay is:

- i. The failure of the Contractor to commence or to carry out work in due time, including in particular, but not so as to restrict the generality of the foregoing, a failure to produce a drawing, manufacturer's or design data, or provide any goods, supplies or materials by any delivery dates stipulated in the Contract or if caused by their subcontractor, or

- ii. Non-availability or shortage of Contractor's Equipment including Key Equipment, Temporary Works, labour, Key Personnel, utility services, equipment, goods, plant or materials, or
- iii. Weather conditions, unless they constitute a 50 year recurrence interval which adversely affect the progress of the Works, or
- iv. Interference by reason of the provision of facilities, access or services to the Employer, including Interfacing Contractors, in accordance with the Contractor's duties and obligations under the Contract, or
- v. Not being permitted to work up to 24 hours per day, or on Sundays, or public holidays, or
- vi. From delay in obtaining any permissions, consents or approvals of whatsoever nature required by any Law to commence or carry out construction, or open the Works for public use, or
- vii. From delay in excavating, diverting, relocating or supporting utilities that have been assigned to the Contractor; or
- viii. From delay or refusal under any Law in regard to the Contractor's plans for importation of Contractor's Equipment including Key Equipment, Temporary Works, labour, equipment, plant, goods, supplies or materials, Key Personnel or other personnel, or
- ix. From delay in securing or maintaining access to and from the Site or in establishing works areas, camps, storage, offices and facilities, unless such access or provision is specified elsewhere in the Contract to be the responsibility of the Employer, or
- x. Any interference from third parties illegally interfering with the Site, access to and from the Site or with works areas, camps, storage, offices or facilities, or
- xi. An instruction by the Employer's Representative to revise the Quality Plan as per Safety Procedures or Health and Safety pursuant to GC Clause 4.8 or GC Clause 6.7 respectively, or
- xii. From delay as a result of the Contractor not fulfilling his liaison, interface and co-ordination obligations and duties with all Interfacing Contractors, as set out or implied in the Contract.

## 8.6. Rate of Progress

If, at any time:

- a) actual progress is too slow to complete within the Time for Completion, and / or
- b) progress has fallen (or shall fall) behind the current programme under Sub- Clause 8.3 [Programme], other than as a result of a cause listed in Sub- Clause 8.4 [Extension of Time for Completion], then the Engineer may instruct the Contractor to submit, under Sub-Clause 8.3 [Programme], a revised programme and supporting report describing the revised methods which the Contractor proposes to adopt in order to expedite progress and complete within the Time for Completion.

Unless the Engineer notifies otherwise, the Contractor shall adopt these revised methods, which may require increase in the working hours and/or in the numbers of Contractor's Personnel and/or Goods, at the risk and cost of the Contractor. If these revised methods cause the Employer to incur additional costs, the Contractor shall subject to notice under Sub-Clause 2.4 [Employer's Claims] pay these costs to the

Employer, in addition to delay damages (if any) under Sub-Clause 8.7 below.

Additional costs of revised methods, including acceleration measures, instructed by the Engineer to reduce delays resulting from causes listed under Sub-Clause 8.4 [Extension of Time for Completion] shall be paid by the Employer, without generating, however, any other additional payment benefit to the Contractor.

### **8.7. Delay Damages**

If the Contractor fails to comply with Sub-Clause 8.2 [Time for Completion], the Contractor shall, subject to notice under Sub-Clause 2.4 [Employer's Claims], pay delay damages to the Employer for this default. These delay damages shall be the sum stated in the Contract Data, which shall be paid for every day which shall elapse between the relevant Time for Completion and the date stated in the Taking-Over Certificate. However, the total amount due under this Sub-Clause shall not exceed the maximum amount of delay damages (if any) stated in the Contract Data.

These delay damages shall be the only damages due from the Contractor for such default, other than in the event of termination under Sub-Clause .2 [Termination by Employer] prior to completion of the Works. These damages shall not relieve the Contractor from his obligation to complete the Works, or from any other duties, obligations or responsibilities which he may have under the Contract.

- a) Where the Works are required to be completed within particular Key Dates, as stated in Part –B Particular Conditions also apply to these key dates completion, and the Appendix to Tender shall include a sum in respect of each Key Date which represents the damages likely to be suffered by the Employer if the said Key Date is not accomplished within the time prescribed or by any extension granted under GC Clause 8.4.
- b) If the Contractor fails to substantially achieve any Key Date within the time so prescribed, subject to any extension granted under GC Clause 8.4, he shall pay to the Employer the appropriate stated sum for every day which shall elapse between the dates on which the prescribed time expired and the date of achieving that Key Date.
- c) Delay damages in respect of two or more Key dates relating to the construction may run concurrently, and the contractor will be liable for the aggregate of Delay Damages for all delayed Kay Dates.
- d) All sums payable by the Contractor to the Employer pursuant to GC Clause 8.7 shall be paid as Liquidated Damages for delay and not as a penalty.
- e) Every stage of construction is subject to Key Dates and therefore the application of Delay Damages on delay. The total amount of Delay Damages payable by the Contractor in respect of the delay to the whole of the Works or for failing to achieve any Key Date, shall be limited to the appropriate sums stated in Contract.
- f) Delay Damages levied on earlier missed key dates will be refunded provided the delay does not results in delay of the works of any interfacing contractors or overall completion of the work. In case it is affecting the works of any interfacing contractor the money recovered as Delay Damages will be adjusted (towards compensation for interfacing contractor) and then the balance will be released. TIDEL decision will be final and binding in this regard.

### **8.8. Suspension of Work:**

The Engineer may at any time instruct the Contractor to suspend progress of part or all of the Works. During such suspension, the Contractor shall protect, store and secure

such part or the Works against any deterioration, loss or damage.

The Engineer may also notify the cause for the suspension. If and to the extent that the cause is notified and is the responsibility of the Contractor, the following Sub- Clauses 8.9, 8.10 and 8.11 shall not apply.

#### **8.9. Consequences of Suspension**

If the Contractor suffers delay and/or incurs Cost from complying with the Engineer's instructions under Sub-Clause 8.8 [Suspension of Work] and/or from resuming the work, the Contractor shall give notice to the Engineer and shall be entitled subject to:

- a) an extension of time for any such delay, if completion is or shall be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
- b) payment of any such Cost, which shall be included in the Contract Price.

After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] either to agree or determine these matters.

The Contractor shall not be entitled to any extension of time for, or to payment of the Cost incurred in, making good the consequences of the Contractor's faulty design, workmanship or materials, or of the Contractor's failure to protect, store or secure in accordance with Sub-Clause 8.8 [Suspension of Work].

The Contractor shall not be entitled to any extra cost incurred during the period of any suspension of Work, if such suspension is necessary for the proper execution of the Works, or by reason of weather conditions, or by some default on the part of the Contractor, or necessary for the safety of Works, or any part thereof, or necessary for the safety of adjoining property, or safety of the general public, or workmen, or those who have to be at the Site, or to ensure safety, or to avoid disruption to traffic and utilities, or to permit fast repairs and restoration of any damaged utilities.

#### **8.10. Payment for Plant and Materials in Event of Suspension**

The Contractor shall be entitled to payment of the value (as on the date of suspension) of Construction, Plant and/or Materials which have been delivered to Site, if:

- a) the work on Construction / Procurement of Plant or delivery of Plant and/or Materials has been suspended for more than 15 days, and
- b) the Contractor has marked the Plant and/or Materials as the Employer's property in accordance with the Engineer's instructions.

#### **8.11. Prolonged Suspension**

If the suspension under Sub-Clause 8.8 [Suspension of Work] has continued for more than 45 days, the Contractor may request the Engineer's permission to proceed. If the Engineer does not give permission within 15 days after being requested to do so, the Contractor may, by giving notice to the Engineer, treat the suspension as an omission under Clause 13 [Variations and Adjustments] of the affected part of the Works. If the suspension affects the whole of the Works, the Contractor may give notice of termination under Sub-Clause 16.2 [Termination by Contractor].

#### **8.12. Resumption of Work**

After the permission or instruction to proceed is given, the Contractor and the Engineer shall examine the Works and the Plant and Materials affected by the suspension. The Contractor shall make good any deterioration or defect in or loss of the Works or Plant or



Materials, which has occurred during the suspension after receiving from the Engineer an instruction to this effect under Clause 13 [Variations and Adjustments].

## **9. Tests on Completion**

### **9.1. Contractor's Obligations**

The Contractor shall carry out the Tests on Completion in accordance with this Clause and Sub- Clause 7.4 [Testing], after providing the documents in accordance with Sub-Clause

5.6 [As-Built Documents] and Sub-Clause 5.7 [Operation and Maintenance Manuals].

The Contractor shall give to the Engineer not less than 15 days' notice of the date after which the Contractor will be ready to carry out each of the Tests on Completion. Unless otherwise agreed, Tests on Completion shall be carried out within 15 days after this date, on such day or days as the Engineer shall instruct.

Unless otherwise stated in the Particular Conditions, the Tests on Completion shall be carried out in the following sequence:

- a) pre-commissioning tests, which shall include the appropriate inspections and ("dry" or "cold") functional tests to demonstrate that each item of Plant can safely undertake the next stage,
- b) commissioning tests, which shall include the specified operational tests to demonstrate that the Works or Section can be operated safely and as specified, under all available operating conditions; and
- c) trial operation, which shall demonstrate that the Works or Section perform reliably and in accordance with the Contract.

During trial operation, when the Works are operating under stable conditions, the Contractor shall give notice to the Engineer that the Works are ready for any other Tests on Completion, including performance tests to demonstrate whether the Works conform with criteria specified in the Employer's Requirements and with the Schedule of Guarantees.

Trial operation shall not constitute a taking-over under Clause 10 [Employer's Taking Over]. Unless otherwise stated in the Particular Conditions, any product produced by the Works during trial operation shall be the property of the Employer.

In considering the results of the Tests on Completion, the Engineer shall make allowances for the effect of any use of the Works by the Employer on the performance or other characteristics of the Works. As soon as the Works, or a Section, have passed each of the Tests on Completion described in sub-paragraph (a), (b) or (c), the Contractor shall submit a certified report of the results of these Tests to the Engineer.

### **9.2. Delayed Tests**

If the Tests on Completion are being unduly delayed by the Employer, Sub-Clause 7.4 [Testing] (fifth paragraph) and/or Sub-Clause 10.3 [Interference with Tests on Completion] shall be applicable.

If the Tests on Completion are being unduly delayed by the Contractor, the Engineer may by notice require the Contractor to carry out the Tests within 15 days after receiving the notice. The Contractor shall carry out the Tests on such day or days within that period as the Contractor may fix and of which he shall give notice to the Engineer.

If the Contractor fails to carry out the Tests on Completion within the period of 15 days,

the Employer's Personnel may proceed with the Tests at the risk and cost of the Contractor. The Tests on Completion shall then be deemed to have been carried out in the presence of the Contractor and the results of the Tests shall be accepted as accurate.

### **9.3. Re-testing**

If the Works, or a Section, fail to pass the Tests on Completion, Sub-Clause 7.5 [Rejection] shall apply, and the Engineer or the Contractor may require the failed Tests, and Tests on Completion on any related work, to be repeated under the same terms and conditions.

### **9.4. Failure to Pass Tests on Completion**

If the Works, or a Section, fail to pass the Tests on Completion repeated under Sub-Clause 9.3 [Retesting], the Engineer shall be entitled to:

- a) order further repetition of Tests on Completion under Sub-Clause 9.3;
- b) if the failure deprives the Employer of substantially the whole benefit of the Works or Section, reject the Works or Section (as the case may be), in which event the Employer shall have the same remedies as are provided in sub- paragraph (c) of Sub-Clause 11.4 [Failure to Remedy Defects];or
- c) issue a Taking-Over Certificate, if the Employer so requests.

In the event of sub-paragraph (c), the Contractor shall then proceed in accordance with all other obligations under the Contract, and the Contract Price shall be reduced by such amount as shall be appropriate to cover the reduced value to the Employer as a result of this failure. Unless the relevant reduction for this failure is stated (or its method of calculation is defined) in the Contract, the Employer may require the reduction to be (i) agreed by both Parties (in full satisfaction of this failure only) and paid before this Taking - Over Certificate is issued, or (ii) determined and paid under Sub-Clause 2.4 [Employer's Claims] and Sub- Clause 3.5 [Determinations].

## **10. Employer's Taking Over**

### **10.1. Taking Over of the Works and Sections**

Except as stated in Sub-Clause 9.4 [Failure to Pass Tests on Completion], the Works shall be taken over by the Employer when (i) the Works have been completed in accordance with the Contract, including the matters described in Sub-Clause 8.2 [Time for Completion] and except as allowed in sub-paragraph (a) below, and (ii) a Taking-Over Certificate for the Works has been issued, or is deemed to have been issued in accordance with this Sub-Clause.

The Contractor may apply by notice to the Engineer for a Taking-Over Certificate not earlier than 15 days before the Works shall, in the Contractor's opinion, be complete and ready for taking over. If the Works are divided into Sections, the Contractor may similarly apply for a Taking-Over Certificate for each Section.

The Engineer shall, within 15 days after receiving the Contractor's application:

- a) Issue the Taking-Over Certificate to the Contractor, stating the date on which the Works or Section were completed in accordance with the Contract, except for any minor outstanding work and defects which will not substantially affect the use of the Works or Section for their intended purpose (either until or whilst this work is completed and these defects are remedied);or
- b) Reject the application, giving reasons and specifying the work required to be done by the Contractor to enable the Taking-Over Certificate to be issued. The Contractor shall then complete this work before issuing a further notice under this Sub-Clause.

If the Engineer fails either to issue the Taking-Over Certificate or to reject the

Contractor's application with the period of 15 days, and if the Works or Section (as the case may be) are substantially in accordance with the Contract, the Taking-Over Certificate shall be deemed to have been issued on the last day of that period.

## **10.2. Taking Over of Parts of the Works**

The Engineer may, at the sole discretion of the Employer, issue a Taking-Over Certificate for any part of the Permanent Works.

The Employer shall not use any part of the Works (other than as a temporary measure which is either specified in the Contract or agreed by both Parties) unless and until the Engineer has issued a Taking-Over Certificate for this part. However, if the Employer does use any part of the Works before the Taking-Over Certificate is issued:

- a) The part which is used shall be deemed to have been taken over as from the date on which it issued,
- b) The Contractor shall cease to be liable for the care of such part as from this date, when responsibility shall pass to the Employer, and
- c) If requested by the Contractor, the Engineer shall issue a Taking-Over Certificate for this part.

After the Engineer has issued a Taking-Over Certificate for a part of the Works, the Contractor shall be given the earliest opportunity to take such steps as may be necessary to carry out any outstanding Tests on Completion. The Contractor shall carry out these Tests on Completion as soon as practicable before the expiry date of the relevant Defects Liability Period.

If the Contractor incurs any Cost as a result of the Employer taking over and/or using a part of the Works, other than such use as is specified in the Contract or agreed by the Contractor, the Contractor shall (i) give notice to the Engineer and (ii) be entitled subject to payment of any such Cost plus profit, which shall be included in the Contract Price. After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] either to agree or determine this Cost and profit.

If a Taking-Over Certificate has been issued for a part of the Works (other than a Section), the delay damages thereafter for completion of the remainder of the Works shall be reduced. Similarly, the delay damages for the remainder of the Section (if any) in which this part is included shall also be reduced. For any period of delay after the date stated in this Taking-Over Certificate, the proportional reduction in these delay damages shall be calculated as the proportion which the value of the part so certified bears to the value of the Works or Section (as the case may be) as a whole. The Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these proportions. The provisions of this paragraph shall only apply to the daily rate of delay damages under Sub-Clause 8.7 [Delay Damages], and shall not affect the maximum amount of these damages.

## **10.3. Interference with Tests Completion**

If the Contractor is prevented, for more than 15 days, from carrying out the Tests on Completion by a cause for which the Employer is responsible, the Employer shall be deemed to have taken over the Works or Section (as the case may be) on the date when the Tests on Completion would otherwise have been completed.

The Engineer shall then issue a Taking-Over Certificate accordingly, and the Contractor shall carry out the Tests on Completion as soon as practicable, before the expiry date of the Defects Liability Period. The Engineer shall require the Tests on Completion to be carried out by giving 15 days' notice and in accordance with the relevant provisions of the Contract.

If the Contractor suffers delay and/or incurs Cost as a result of this delay in carrying out

the Tests on Completion, the Contractor shall give notice to the Engineer and shall be entitled, subject to:

- a) An extension of time for any such delay, if completion is or shall be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
- b) Payment of any such Cost plus profit, which shall be included in the Contract Price.

After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] either to agree or determine these matters.

#### **10.4. Surfaces Requiring Reinstatement**

Except as otherwise stated in a Taking-Over Certificate, a certificate for a Section or part of the Works shall not be deemed to certify completion of any ground or other surfaces requiring reinstatement.

### **11. Defects Liability Period**

#### **11.1. Completion of Outstanding Work & Remedying Defects**

In order that the Works and Contractor's Documents, and each Section, shall be in the condition as required by the Contract (fair wear and tear excepted) by the expiry date of the relevant Defects Liability Period or as soon as practicable thereafter, the Contractor shall:

- a) Complete any work which is outstanding on the date stated in a Taking- Over Certificate, within such reasonable time as is instructed by the Engineer, and
- b) Execute all work required to remedy any defects or damage, as may be notified by (or on behalf of) the Employer on or before the expiry date of the Defects Liability Period for the Works or Section (as the case may be).

If any defect appears or damage occurs, the Contractor shall be notified accordingly, by (or on behalf of) the Employer.

#### **11.2. Cost of Remedying Defects**

All work referred to in Sub-Clause 11.1 [Completion of Outstanding Work and Remedying Defects] shall be executed at the risk and cost of the Contractor, if and to the extent that the work is attributable to:

- i. The design of the Works, other than a part of the design for which the Employer is responsible (if any),
- ii. Plant, Materials or workmanship not being in accordance with the Contract,
- iii. Improper operation or maintenance which was attributable to matters for which the Contractor is responsible (under Sub-Clauses 5.5 to 5.7 or otherwise), or
- iv. Failure by the Contractor to comply with any other obligation.

If and to the extent that such work is attributable to any other cause, the Contractor shall be notified promptly by (or on behalf of) the Employer and Sub-Clause 13.3 [Variation Procedure] shall apply.

**11.3. Failure to Remedy Defects**

If the Contractor fails to remedy any defect or damage within a reasonable time, a date may be fixed by (or on behalf of) the Employer, on or by which the defect or damage is to be remedied. The Contractor shall be given reasonable notice of this date.

If the Contractor fails to remedy the defect or damage by this notified date and this remedial work was to be executed at the cost of the Contractor under Sub-Clause 11.2 [Cost of Remedying Defects], the Employer may (at his option):

- a) Carry out the work himself or by others, in a reasonable manner and at the Contractor's cost, but the Contractor shall have no responsibility for this work; and the Contractor shall, subject to Sub-Clause 2.4 [Employer's Claims], pay to the Employer the costs reasonably incurred by the Employer in remedying such defect or damage;
- b) Require the Engineer either to agree or determine a reasonable reduction in the Contract Price in accordance with Sub-Clause 3.5 [Determinations]; or
- c) If the defect or damage deprives the Employer of substantially the whole benefit of the Works or any major part of the Works, or in respect of such major part which cannot be put to the intended use. Without prejudice to any other rights, under the Contract or otherwise, the Employer shall then be entitled to recover all sums paid for the Works or for such part (as the case may be), plus financing costs and the cost of dismantling the same, clearing the Site and returning Plant and Materials to the Contractor.

**11.4. Removal of Defective Work**

The Employer shall during the progress of works, have power to order in writing from time to time removal from the works, within such reasonable times as may be specified in the order, of any materials which in the opinion of the Employer are not in accordance with the specification or the instruction of the Employer, the substitution of proper materials and the removal and proper re-execution of any work executed with materials or workmanship not in accordance with the drawings and specifications or instructions and the contractor shall forthwith carryout such order at his own cost. In case of default on the part of the contractor to carry out such order, the Employer have the power to employ and pay other person etc. to carry out the same and all expenses consequent on incidental thereto shall be borne by the contractor or may be deducted by the Employer for any money due or that may become due to the contractor.

If the defect or damage cannot be remedied expeditiously on the Site and the Employer gives consent, the Contractor may remove from the Site for the purposes of repair such items of Plant as are defective or damaged. This consent may require the Contractor to increase the amount of the Performance Bank Guarantee by the full replacement cost of these items, or to provide other appropriate security.

**11.5. Further Tests**

If the work of remedying of any defect or damage may affect the performance of the Works, the Engineer may require the repetition of any of the tests described in the Contract, including Tests on Completion and/or Tests after Completion. The requirement shall be made by notice within 15 days after the defect or damage is remedied.

These tests shall be carried out in accordance with the terms applicable to the previous tests, except that they shall be carried out at the risk and cost of the Party liable, under Sub-Clause 11.2 [Cost of Remedying Defects], for the cost of the remedial work.

**11.6. Right of Access**

Until the Performance Certificate has been issued, the Contractor shall have the right of access to all parts of the Works and to records of the operation and performance of the Works, except as may be inconsistent with the Employer's reasonable security restrictions.

**11.7. Contractor to Search**

The Contractor shall, if required by the Engineer, search for the root cause of any defect, under the direction of the Engineer. Unless the defect is to be remedied at the cost of the Contractor under Sub- Clause 11.2 [Cost of Remedying Defects], the Cost of the search plus profit shall be either agreed or determined by the Engineer in accordance with Sub-Clause 3.5 [Determinations] and shall be included in the Contract Price.

**11.8. Performance Certificate**

Performance of the Contractor's obligations shall not be considered to have been completed until the Engineer has issued the Performance Certificate to the Contractor, stating the date on which the Contractor completed his obligations under the Contract. The Engineer shall issue the Performance Certificate within 30 days after the latest of the expiry dates of the Defects Liability Periods, or as soon thereafter as the Contractor has supplied all the Contractor's Documents and completed and tested all the Works, including remedying any defects. A copy of the Performance Certificate shall be issued to the Employer.

Only the Performance Certificate shall be deemed to constitute acceptance of the Works.

**11.9. Unfulfilled Obligations**

After the Performance Certificate has been issued, each Party shall remain liable for the fulfilment of any obligation which remains unperformed at that time. For the purposes of determining the nature and extent of unperformed obligations, the Contract shall be deemed to remain in force.

**11.10. Clearance of Site**

Upon receiving the Performance Certificate, the Contractor shall remove any remaining Contractor's Equipment, surplus material, wreckage, rubbish and Temporary Works from the Site.

If all these items have not been removed within 28 days after the Employer receives a copy of the Performance Certificate, the Employer may sell or otherwise dispose of any remaining items. The Employer shall be entitled to be paid the costs incurred in connection with, or attributable to, such sale or disposal and restoring the Site.

Any balance of the moneys from the sale shall be paid to the Contractor. If these moneys are less than the Employer's costs, the Contractor shall pay the outstanding balance to the Employer.

**12. Test after Completion****12.1. Procedure for Tests after Completion**

If Tests after Completion are specified in the Contract, this Clause shall apply. Unless otherwise stated in the Particular Conditions, the Employer shall:

- a) Provide all electricity, equipment, fuel, instruments, labour, materials, and suitably qualified and experienced staff, as are necessary to carry out the Tests after Completion efficiently, and



- b) Carry out the Tests after Completion in accordance with the manuals supplied by the Contractor under Sub-Clause 5.7 [Operation and Maintenance Manuals] and such guidance as the Contractor may be required to give during the course of these Tests; and in the presence of such Contractor's Personnel as either Party may reasonably request.

The Tests after Completion shall be carried out as soon as is reasonably practicable after the Works or Section have been taken over by the Employer. The Employer shall give to the Contractor 15 days' notice of the date after which the Tests after Completion will be carried out. Unless otherwise agreed, these Tests shall be carried out within 15 days after this date, on the day or days determined by the Employer.

If the Contractor does not attend at the time and place agreed, the Employer may proceed with the Tests after Completion, which shall be deemed to have been made in the Contractor's presence, and the Contractor shall accept the readings as accurate.

The results of the Tests after Completion shall be compiled and evaluated by both Parties. Appropriate account shall be taken of the effect of the Employer's prior use of the Works.

## **12.2. Delayed Tests**

If the Contractor incurs Cost as a result of any unreasonable delay by the Employer to the Tests after Completion, the Contractor shall (i) give notice to the Engineer and shall be entitled, subject to payment of any such Cost plus profit, which shall be included in Contract Price.

After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] either to agree or determine this Cost and profit.

If, for reasons not attributable to the Contractor, a Test after Completion on the Works or any Section cannot be completed during the Defects Liability Period (or any other period agreed upon by both Parties), then the Works or Section shall be deemed to have passed this Test after Completion.

## **12.3. Re-testing**

If the Works, or a Section, fail to pass the Tests after Completion:

- a) Sub-paragraph (b) of Sub-Clause 11.1 [Completion of Outstanding Work and Remedying Defects] shall apply, and
- b) Either Party may then require the failed Tests, and the Tests after Completion on any related work, to be repeated again under the same terms and conditions.

If and to the extent that this failure and re-testing are attributable to any of the matters listed in subparagraphs (a) to (d) of Sub-Clause 11.2 [Cost of Remedying Defects] and cause the Employer to incur additional costs, the Contractor shall, subject to Sub-Clause 2.4 [Employer's Claims], pay these costs to the Employer.

## **12.4. Failure to Pass Tests after Completion**

If the following conditions apply, namely:

- a) The Works, or a Section, fail to pass any or all of the Tests after Completion; and
- b) The relevant sum payable as non-performance damages for this failure is stated (or its method of calculation is defined) in the Contract; and
- c) The Contractor pays this relevant sum to the Employer during the Defects Liability

Period, then, such Works or Section shall be deemed to have passed these Tests after Completion.

If the Works, or a Section, fail to pass a Test after Completion and the Contractor proposes to make adjustments or modifications to the Works or such Section, the Contractor may be instructed by (or on behalf of) the Employer that right of access to the Works or Section cannot be given until a time that is convenient to the Employer. The Contractor shall then remain liable to carry out the adjustments or modifications and to satisfy this Test, within a reasonable period of receiving notice by (or on behalf of) the Employer at the time that is convenient to the Employer.

However, if the Contractor does not receive this notice during the relevant Defects Liability Period, the Contractor shall be relieved of this obligation and the Works or Section (as the case may be) shall be deemed to have passed this Test after Completion.

If the Contractor incurs any additional Cost as a result of any unreasonable delay by the Employer in permitting access to the Works or Plant by the Contractor, either to investigate the causes of a failure to pass a Test after Completion or to carry out any adjustments or modifications, the Contractor shall (i) give notice to the Engineer and (ii) be entitled, subject to payment of any such Cost plus profit, which shall be included in the Contract Price.

After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] either to agree or determine this Cost and profit.

### **13. Variations and Adjustments**

#### **13.1. Right to Vary**

The accepted unit rates shall hold good for overall variation of +/- 25% in the total contract value. The contractor shall not be entitled to any compensation or claim due to change(s) / order (s) by TIDEL. The contractor will only be paid for the actual quantity of works.

Engineer/Employer shall have power to make any alternations in, omissions from additions to or substitutions for the original specification, drawings, designs and instructions that may appear to be necessary or advisable during the progress of the work. For that purpose or if for any other reason it shall in the opinion of Engineer/Employer be desirable, shall have power to order the Contractor to do and the Contractor shall do any or all the following:

- (a) Changes to the quantities of any item of work included in the contract.
- (b) Omission of any work when it is to be carried out by others,
- (c) Changes to the quality and other characteristics of any item of work
- (d) Change the levels, lines, positions and dimensions of any part of the work
- (e) Any additional work, Plant, Materials or services necessary for the Permanent Works, including any associated Tests on Completion, boreholes and other testing and exploratory work
- (f) Change in any specified sequence, methods or timing of construction of any part of the work.

No alteration, omission or variation ordered in writing by the Engineer/Employer shall vitiate this Contract. In case the Engineer/Employer thinks proper at any time during the progress of the Works to make any alterations in, or additions to or omissions from, the Works or any alteration in the kind or quality of the Materials to be used therein, the Engineer/Employer shall give notice thereof in writing to the Contractor or shall confirm in writing within seven Days of giving any such oral instructions. Any additional work which the Contractor may be directed to do in the manner above specified as part of the

work shall be carried out by the Contractor on same conditions in all respects on which he agreed to do the main work and same rates as are specified in the tender for the main work. The Contractor shall alter, add to, or omit from, as the case may be, in accordance with such notice, but the Contractor shall not do any work extra to or make any alterations or additions to or omissions from the Works or any deviation from any of the provisions of the Contract, stipulations, Specification or Drawings without the consent in writing of the Engineer/Employer and the value of such extras, alterations, additions or omissions shall in all cases be determined by the Engineer/Employer and the same shall be added to or deducted from the Contract Value, as the case may be.

**Quantity variation:**

Quantity variation will have no ceiling limit in respect of individual items and individual quantities can vary to any extent. Such variations shall not warrant any claims for modifications to already quoted and accepted rates.

**13.2. Value Engineering**

The Contractor may, at any time, submit to the Engineer a written proposal which (in the Contractor's opinion) shall, if adopted, (i) accelerate completion, (ii) reduce the cost to the Employer of executing, maintaining or operating the Works, (iii) improve the efficiency or value to the Employer of the completed Works, or (iv) otherwise be of benefit to the Employer.

The proposal shall be prepared at the cost of the Contractor and shall include the items listed in Sub-Clause 13.3 [Variation Procedure].

And any savings done by the proposal raised by the Contractor. The same shall be shared equally by employer and contractor in mutual terms.

**13.3. Variation Procedure**

If the Engineer requests a proposal, prior to instructing a Variation, the Contractor shall respond in writing as soon as practicable, either by giving reasons why he cannot comply (if this is the case) or by submitting:

- a) A description of the proposed design and/or work to be performed and a programme for its execution,
- b) The Contractor's proposal for any necessary modifications to the programme according to Sub-Clause 8.3 [Programme] and to the Time for Completion, and
- c) The Contractor's proposal for adjustment to the Contract Price.

The Engineer shall, as soon as practicable after receiving such proposal (under Sub-Clause 13.2 [Value Engineering] or otherwise), respond with approval, disapproval or comments. The Contractor shall not delay any work whilst awaiting a response

Each instruction to execute a Variation, with any requirements for the recording of Costs, shall be issued by the Engineer to the Contractor, who shall acknowledge receipt.

Upon instructing or approving a Variation, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine adjustments to the Contract Price and the Schedule of Payments. These adjustments shall include profit, and shall take account of the Contractor's submissions under Sub-Clause 13.2 [Value Engineering] if applicable.

**Payment for Additional Items**

**The Contractor shall be bound to carry out and complete the Works as specified in the Contract or as instructed by the Engineer/Employer.**

- a) The rates for items included in the Pricing Document will not be eligible for revision.
- b) The rate for the additional item shall be derived as per the corresponding rate in, TNPWD SOR in that order. In case of non-availability of rates for an item in TNPWD SOR, market rates as approved by the competent Authority/Employer shall be paid.

For utility shifting work, Last accepted rates or SOR item rates of concerned department shall be paid

- c) No additional items shall be executed unless and until written instructions are issued by the Employer/Engineer. Any additional item (including variation in specifications of listed item) executed by the Contractor without the permission in writing will not be payable.
- d) Contractor shall commence any procurement/arrangements for any extra item, only upon receipt of written instructions from Employer.
- e) In the event of the Contractor's disagreement in respect of any new or revised rates, the Engineer, after consultation and approval with the Employer, shall fix such rates or prices as appropriate and shall notify the Contractor accordingly, with a copy to the Employer.

Until such time as such rate(s) are agreed or fixed, the Employer/competent authority shall determine the provisional rate(s) to enable IPC to be issued by the Engineer

#### **13.4. Payment in Applicable Currencies**

If the Contract provides for payment of the Contract Price in more than one currency, then whenever an adjustment is agreed, approved or determined as stated above, the amount payable in each of the applicable currencies shall be specified. For this purpose, reference shall be made to the actual or expected currency proportions of the Cost of the varied work, and to the proportions of various currencies specified for payment of the Contract Price.

#### **13.5. Deleted**

#### **13.6. Day Work**

For work of a minor or incidental nature, the Engineer may instruct that a Variation shall be executed on a day work basis. The work shall then be valued in accordance with the Day work schedule included in the Contract, and the following procedure shall apply. If a Day work schedule is not included in the Contract, this Sub-Clause shall not apply.

Before ordering Goods for the work, the Contractor shall submit quotations to the Engineer. When applying for payment, the Contractor shall submit invoices, vouchers and accounts or receipts for any Goods.

Except for any items for which the day work schedule specifies that payment is not due, the Contractor shall deliver each day to the Engineer accurate statements in duplicate which shall include the following details of the resources used in executing the previous day's work:

- a) The names, occupations and time of Contractor's Personnel,
- b) The identification, type and time of Contractor's Equipment and Temporary Works, and
- c) The quantities and types of Plant and Materials used.

One copy of each statement will, if correct, or when agreed, be signed by the Engineer and returned to the Contractor. The Contractor shall then submit priced statements of these resources to the Engineer, prior to their inclusion in the next Statement under Sub-Clause 14.3 [Application for Interim Payment Certificates].

#### **13.7. Adjustments for Changes in Legislation**

##### **a) Compliance with tax laws requirements**

- (i) The Contractor shall ensure full compliance with tax laws of India with regard to this Contract and shall be solely responsible for the same. He shall submit copies of

acknowledgements evidencing filing of returns every year and shall keep the Employer fully indemnified against liability of tax, interest, penalty etc, of the Contractor's in respect thereof, which may arise.

The Contractor shall maintain complete records in respect of payments made for taxes, duties, octroi and other levies payable to various authorities and shall advise the Employer of the complete details of such payments every month, which shall be enclosed with the Monthly Progress Report.

These records shall remain open for inspection by the Employer or the Engineer at any time and shall be made available to them as and when required.

(ii) In case the Employer or subject works or any component there of is entitled receives approval for exemption, refund, waiver or reimbursement in any of the taxes applicable to the Contract, including GST in full or part thereof; the Contractor shall follow the due process and obtain such exemption/refund/reimbursement of such taxes etc. from the concerned authority.

The Contractor shall arrange for the remittance of the refund so obtained to the Employer immediately. Alternatively, the Employer at its discretion may instruct the Contractor to submit all the documentary evidence of having paid the taxes to enable the Employer to claim the refund from statutory authorities. The Contractor will forthwith comply with any of the above requests of the Employer and in case of the failure of the Contractor, the amount of refund, whether estimated or actual, shall be recovered by the Engineer from the amounts due for payment to the Contractor or as debt due from the Contractor.

**(iii)The Contractor shall provide a valid registration certificate and clearance certificate under GST act until such certificate is submitted and accepted, no payment, including release of any Mobilization Advance, shall be made by the Engineer to the Contractor.**

#### **Changes in Cost Due to Change in-law:**

For the purpose of this clause, 'Laws' refer to such laws for their time being in force in India.

"Change in Law" means the occurrence or coming into force of the following, at any time after the Base Date any new tax or change in the rate of any existing tax, if so related to the works, which is imposed after the due date of submission of tender and which impacts the performance of the contractor with increased cost or which results in extra financial gains to the contractor due to decreased cost in execution of works.

Such additional or reduced cost shall be certified by the Employer's Representative after examining records provided by the Contractor and shall be paid by or credited to the Employer, subject to sub-clause 13.7.2.5 below.

Notwithstanding the foregoing, such additional or reduced cost shall not be separately paid or credited, if, the same shall have been taken into account under any other clause of the Contract.

If the Price Variation Formula is adopted by the Contractor, then no addition or reduction in cost due to any Changes in Law will be allowed, except for changes due to

- i) Any new tax introduced
- ii) Changes in rate of Customs Duty as compared to the rate existing on the base date
- iii) Changes in rate of Excise Duty as compared to the rate existing on the base date
- iv) Changes in rate of GST as compared to the rate existing on the base date

- b) The impact of the changes referred in above clause shall be allowed only to the extent it

is not covered by the Price Variation Formula

## **14. Contract Price & Payment**

### **14.1 The Contract Price**

Unless otherwise stated in the Particular Conditions:

1. the Contract Price shall be the item rate accepted Contract Amount and be subject to adjustments in accordance with the Contract;
2. The tender shall be quoted for the complete scope of work described in the bill of quantities, drawings, specifications etc. and the Contractor shall finish the work consistent with true intent and meaning of the drawings and specifications.
3. the Contractor shall pay all taxes, duties and fees required to be paid by him except GST which will be paid separately under the Contract, and the Contract Price shall not be adjusted for any of these costs, except as stated in Sub-Clause 13.7 [Adjustments for Changes in Legislation];
4. any quantities which may be set out in a Schedule are estimated quantities and are not to be taken as the actual and correct quantities of the Works which the Contractor is required to execute; and
5. any quantities or price data which may be set out in a Schedule shall be used for the purposes stated in the Schedule and may be inapplicable for other purposes.
6. All materials, labour, tools and tackles, erection equipment, etc. will be to Contractor's account.
7. The price quoted should be firm and all inclusive for the entire period of contract. No claim shall be entertained for any revision.

However, if any part of the Works is to be paid according to quantity supplied or work done, the provisions for measurement and evaluation shall be as stated in the Particular Conditions. The Contract Price shall be determined accordingly, subject to adjustments in accordance with the Contract.

For the purpose of calculation of Price Variation, contract price shall be adjusted by excluding GST which are paid/ payable to the contractor on reimbursement basis separately

The contract price shall be exclusive of service tax if any payable by the contractor time to time as per the applicable service tax law. Such service tax will be billed by the contractor vide interim payment application for the work done. In case Employer gets any relief from the government in respect of service tax, the contractor shall submit documentary evidence with regard to proof of payment of such service tax to the employer to enable claim reimbursement.

### **14.2 Mobilization Advance**

The Employer shall make a Mobilization Advance, as an interest-bearing loan for mobilization, when the Contractor submits a bank guarantee in the specified format from Nationalized/Scheduled Bank in accordance with this Sub- Clause. The total Mobilization Advance, the number and timing of instalments (if more than one), and the applicable currencies and proportions, shall be as stated in the Contract Data. Unless and until the Employer receives this guarantee, or if the total Mobilisation Advance is not stated in the Contract Data, this Sub-Clause shall not apply.

The Engineer shall deliver to the Employer and to the Contractor an Interim Payment Certificate for the first instalment after receiving a Statement (under Sub-Clause 14.3 [Application for Interim Payment Certificates]) and after the Employer receives (i) the



Performance Bank Guarantee in accordance with Sub-Clause 4.2 [Performance Bank Guarantee] (ii) a bank guarantee in the specified format from Nationalized/Scheduled Bank in amounts and currencies equal to the Mobilisation Advance. This bank guarantee shall be in the form annexed to the Contract Data or in another form approved by the Employer.

The Contractor shall ensure that the bank guarantee is valid and enforceable until the Mobilisation Advance has been repaid, but its amount may be progressively reduced by the amount repaid by the Contractor as indicated in the Payment Certificates. If the terms of the bank guarantee specify its expiry date, and the Mobilisation Advance has not been repaid by the date 28 days prior to the expiry date, the Contractor shall extend the validity of the bank guarantee until the Mobilisation Advance has been repaid.

Unless stated otherwise in the Contract Data, the Mobilisation Advance shall be repaid through percentage deductions from the interim payments as determined by the Engineer in accordance with Sub-Clause 14.6 [Issue of Interim Payment Certificates], as follows:

- (a) deductions shall commence in the next interim Payment Certificate following that in which the total of all certified interim payments (excluding the Mobilisation Advance and deductions and repayments of retention) exceeds 30 per cent (30%) of the Accepted Contract Amount; and deductions shall be made at the amortization rate stated in the Contract Data of the amount of each Interim Payment Certificate (excluding the Mobilisation Advance and deductions for its repayments as well as deductions for retention money) in the currencies and proportions of the Mobilisation Advance until such time as the Mobilisation Advance has been repaid; provided that the Mobilisation Advance shall be completely repaid prior to the time when 90 per cent (90%) of the Accepted Contract Amount less Provisional Sums has been certified for payment.

If the Mobilisation Advance has not been repaid prior to the issue of the Taking-Over Certificate for the Works or prior to termination under Clause [Termination by Employer], Clause 16 [Suspension and Termination by Contractor] or Clause 19 [Force Majeure] (as the case may be), the whole of the balance then outstanding shall immediately become due and in case of termination under Clause [Termination by Employer] and Sub- Clause 19.6 [Optional Termination, Payment and Release], payable by the Contractor to the Employer”.

- (i) 10% of the Accepted Contract Price payable in the currencies and proportions in which the Accepted contract Price is payable
- a) First instalment of 25% of the Mobilisation Advance shall be paid after the contract is signed and the required bank guarantee in the specified format from Nationalized/Scheduled Bank is submitted
- b) After submission of proof of deployment of all key personnel such as Project Manager, Planning Manager, other key resources for the project, Completion of detailed work programme sign off, submission of Project HSE plan, Project QA/QC plan & completion of worker accommodation required for the project, the second instalment of 25% shall be paid.
- c) Last instalment of 50% shall be paid on the complete mobilisation of all plant and Machinery (P&M) at site as stated in Volume-1 which shall be substantiated by documentary proof within 30 days. Failure to do shall result in recovery to such amount.

### **14.3 Application for Interim Payment Certificates**

The Contractor shall submit a Statement in 3 copies to the Engineer after the end of the

period of payment stated in the Contract for certification (if not stated, after the end of each month), in a form approved by the Engineer, showing in detail the amounts to which the Contractor considers himself to be entitled, together with supporting documents which shall include the relevant report on progress in accordance with Sub-Clause 4.21 [Progress Reports].

The Statement shall include the following items, as applicable, which shall be expressed in the various currencies in which the Contract Price is payable, in the sequence listed:

- (a) the estimated contract value of the Works executed and the Contractor's Documents produced up to the end of the month
  - (b) any amounts to be added and deducted for changes in legislation and changes in cost, in accordance with Sub-Clause 13.7 [Adjustments for Changes in Legislation]
  - (c) any amount to be deducted for retention, calculated by applying the percentage of retention stated in the Contract Data to the total of the above amounts, until the amount so retained by the Employer reaches the limit of Retention Money (if any) stated in the Contract Data;
  - (d) any amounts to be added and deducted for the Mobilisation Advance and repayments in accordance with Sub-Clause 14.2 [Mobilisation Advance];
- any other additions or deductions which may have become due under the Contract or otherwise, including those under Clause 20 [Claims, Disputes and Arbitration]; and the deduction of amounts certified in all previous Payment Certificates.

### **Payment terms**

Progressive payment shall be on monthly Interim Payment Application.

Engineering Consultant shall certify the Interim Payment Application within **15 days** from the date of submission of bills in complete shape by the **Contractor** with all required enclosures, attachments etc.

The **Employer** shall make payment within **15 days** from the date of certification of bills by the Engineering Consultant.

Payment at part rates for the supply of equipments / materials for MEP works, erection & testing against agreement rates may be made in the running account bills at the percentage quoted below,

The part rate to be allowed for an item shall be as assessed and decided by the Engineering Consultant for the extent of work done and whether the item could be completed in all respects as per specification within the balance amount available.

Full rate shall be released in subsequent bills on completion of the item of work in all respects as per specifications and the amount paid at part rate shall be duly deducted.

### **PAYMENT TERMS for MEP items in RA Bills:**

65% of accepted rate of item	Against delivery of all materials of item at site.
25% of accepted rate of item	On erection
15% of accepted rate of item	On testing and successful commissioning after erection and handing over to the Owner.
5% of accepted rate of item	On completion of all necessary, documentation, test certificates etc., as per contract.

Engineering Consultant shall certify the running account bills within 15 days from the date of submission of bills in complete shape by the **Contractor** with all required enclosures, attachments etc.

The **Owner** shall make payment within 15 days from the date of certification of bills by the Engineering Consultant and validation by owners

**Deductions in Interim Payments:**

- a. 5% of the gross value of bill will be deducted towards retention money from each running bill except on initial mobilization advance payment until the retention money amounts to 5 % of the contract sum of work.
- b. Secured advance, if any, paid on specified materials shall be recovered full in the next running bill.
- c. Mobilization advance shall be recovered as per contract data.
- d. Any other applicable deductions as per Conditions of Contract.
- e. Other applicable deductions as required by statutory regulations.

The Contractor shall submit his final bill for the works within three months of completion of works. The bill shall be based only on works as measured and at accepted agreement rates including rates for any additional or extra work which might have been sanctioned by the **Owner**. All deductions due under the contract shall be made. Final bill shall be submitted by the **Contractor** within three months from the date of completion of works.

**Tax Deduction at Source**

Deduction towards Income Tax, and any other tax, may be made at source from each payment made by the Engineer, as may be directed by Income Tax Department and other statutory bodies or as provided in statute, relevant acts, rules, circulars and directions issued there under.

**Post Payment Audit**

The Employer reserves the right to carry out a post payment audit and/or technical examination of the Works, and the Final account, including all supporting vouchers, abstracts, etc., and to make a claim on the Contractor for the refund of any excess amount paid to him, if as a result of such examination, any over-payment to him is discovered to have been made in respect of any work done or alleged to have been done by the Contractor, under the Contract. If any under-payment is discovered, the same shall be paid by the Employer to the Contractor. Such payments or recoveries, however, shall not be subject to any interest.

#### **14.4 Schedule of Payments**

If the Contract includes a Schedule of Payments specifying the instalments in which the Contract Price will be paid, then, unless otherwise stated in this Schedule:

- (e) the instalments quoted in the Schedule of Payments shall be the estimated contract values for the purposes of sub-paragraph (a) of Sub-Clause 14.3 [Application for Interim Payment Certificates];
- (f) Sub-Clause 14.5 [Plant and Materials intended for the Works] shall not apply; and
- (g) if these instalments are not defined by reference to the actual progress achieved in executing the Works, and if actual progress is found to be less than that on which the Schedule of Payments was based, then the Engineer may proceed in accordance with Sub-Clause 3.5 [Determinations] either to agree or determine revised instalments, which shall take account of the extent to which progress is less or more than that on which the instalments were previously based.

**14.4 A. Plant and Materials intended for the Works**

If this Sub-Clause applies, Interim Payment Certificates shall include, under sub-paragraph (e) of Sub-Clause 14.3, (i) an amount for Plant and Materials which have been sent to the Site for incorporation in the Permanent Works, and (ii) a reduction when the contract value of such Plant and Materials is included as part of the Permanent Works under sub-paragraph (a) of Sub-Clause 14.3 [Application for Interim Payment Certificates].

If the lists referred to in sub-paragraphs (b)(i) or (c)(i) below are not included in the Schedules, this Sub-Clause shall not apply.

The Engineer shall determine and certify each addition if the following conditions are satisfied:

a) the Contractor has:

- kept satisfactory records (including the orders, receipts, Costs and use of Plant and Materials) which are available for inspection, and
- submitted a statement of the Cost of acquiring and delivering the Plant and Materials to the Site, supported by satisfactory evidence; and either:

b) the relevant Plant and Materials:

- are those listed in the Schedules for payment when shipped,
- have been shipped to the Country, route to the Site, in accordance with the Contract; and are described in a clean shipped bill of lading or other evidence of shipment, which has been submitted to the Engineer together with evidence of payment of freight and insurance, any other documents reasonably required, and a bank guarantee in a form and issued by an entity approved by the Employer in amounts and currencies equal to the amount due under this Sub-Clause: this guarantee may be in a similar form to the form referred to in Sub-Clause 14.2 [Mobilisation Advance] and shall be valid until the Plant and Materials are properly stored on Site and protected against loss, damage or deterioration; or

c) the relevant Plant and Materials:

- are those listed in the Schedule for payment when delivered to the Site, and
- have been delivered to and are properly stored on the Site, are protected against loss, damage or deterioration, and appear to be in accordance with the Contract.

The additional amount to be certified shall be the equivalent of eighty percent of the Engineer's determination of the cost of the Plant and Materials (including delivery to Site), taking account of the documents mentioned in this Sub-Clause and of the contract value of the Plant and Materials.

The currencies for this additional amount shall be the same as those in which payment will become due when the contract value is included under sub-paragraph of Sub-Clause 14.3 [Application for Interim Payment Certificates]. At that time, the Payment Certificate shall include the applicable reduction which shall be equivalent to, and in the same currencies and proportions as, this additional amount for the relevant Plant and Materials.

**14.5 Deleted****14.6 Issue of Interim Payment Certificates**

No amount will be certified or paid until the Employer has received and approved the Performance Bank Guarantee. Thereafter, the Engineer shall, within 30 days after

receiving a Statement and supporting documents, issue to the Employer an Interim Payment Certificate which shall state the amount which the Engineer fairly determines to be due, with all supporting particulars for any reduction or withholding made by the Engineer on the Statement if any”.

However, prior to issuing the Taking -Over Certificate for the Works, the Engineer shall not be bound to issue an Interim Payment Certificate in an amount which would (after retention and other deductions) be less than the minimum amount of Interim Payment Certificates (if any) stated in the Contract Data. In this event, the Engineer shall give notice to the Contractor accordingly.

An Interim Payment Certificate shall not be withheld for any other reason, although:

- (h) if anything supplied or work done by the Contractor is not in accordance with the Contract, the cost of rectification or replacement may be withheld until rectification or replacement has been completed; and/or
- (i) if the Contractor was or is failing to perform any work or obligation in accordance with the Contract, and had been so notified by the Engineer, the value of this work or obligation may be withheld until the work or obligation has been performed.

The Engineer may, in any Payment Certificate, make any correction or modification that should properly be made to any previous Payment Certificate. A Payment Certificate shall not be deemed to indicate the Engineer's acceptance, approval, consent or satisfaction, and shall include any amounts due to or from the Contractor in accordance with a decision by the DB made under Clause 20.4 [Obtaining Dispute Board].

#### **14.7 Payment**

The Employer shall pay to the Contractor:

- (a) the first instalment of the Mobilization Advance within 45 days after issuing the Letter of Award or within 15 days after receiving the documents in accordance with Sub-Clause 4.2 [Performance Bank Guarantee] and Sub- Clause 14.2 [Mobilization Advance], whichever is later;
- (b) the amount certified in each Interim Payment Certificate within 30 days after the Engineer receives the Statement and supporting documents, the amount shown on any statement submitted by the Contractor, within 15 days after such statement is submitted, any discrepancy being rectified in the next payment to the Contractor including any amounts due in accordance with a decision by the Dispute Board (DB) which have been included in the Interim Payment Certificate; and the amount certified in the Final Payment Certificate within 30 days after the Employer receives this Payment Certificate or the undisputed amount shown in the Final Statement, within 30 days after the date of notification of the suspension in accordance with Sub-Clause 16.2 [Termination by Contractor].

Payment of the amount due in currency shall be made into the account opened exclusively at Chennai by the Contractor, for the operation of funds in this project and all payments by Employer shall be credited only to such account. TIDEL will audit such accounts quarterly. Contractor cannot take amounts from this account until completion of work.

#### **14.8 Payment of Retention Money**

When the Taking-Over Certificate has been issued for the Works, and the Works have passed all specified tests (including the Tests after Completion, if any), the first half of the Retention Money shall be certified by the Engineer for payment to the Contractor. If a

Taking-Over Certificate is issued for a Section, the relevant percentage of the first half of the Retention Money shall be certified and paid when the Section passes all tests.

Promptly after the latest of the expiry dates of the Defects Liability Period, the outstanding balance of the Retention Money shall be certified by the Engineer for payment to the Contractor. If a Taking-Over Certificate was issued for a Section, the relevant percentage of the second half of the Retention Money shall be certified and paid promptly after the expiry date of the Defects Liability Period for the Section.

However, if any work remains to be executed under Clause 11 [Defects Liability] or Clause 12 [Tests after Completion], the Engineer shall be entitled to withhold certification of the estimated cost of this work until it has been executed.

The relevant percentage for each Section shall be the percentage value of the Section as stated in the Tender. If the percentage value of a Section is not stated in the Tender, no percentage of either half of the Retention Money shall be released under this Sub-Clause in respect of such Section.

Unless otherwise stated in the Contract Data, when the Taking-Over Certificate has been issued for the Works, the Works have passed all specified tests (including the Tests after Completion, if any) and the first half of the Retention Money has been certified for payment by the Engineer, the Contractor shall be entitled to substitute a guarantee, or in another form approved by the Employer and provided by an entity approved by the Employer, for the second half of the Retention Money. The Contractor shall ensure that the guarantee is in the amounts and currencies of the second half of the Retention Money and is valid and enforceable until the Contractor has executed and completed the Works and remedied any defects, as specified for the Performance Bank Guarantee in Sub-Clause 4.2. On receipt by the Employer of the required guarantee, the Engineer shall certify and the Employer shall pay the second half of the Retention Money. The release of the second half of the Retention Money against a guarantee shall then be in lieu of the release under the second paragraph of this Sub-Clause. The Employer shall return the guarantee to the Contractor within 15 days after receiving a copy of the Performance Certificate.

If the Performance Bank Guarantee required under Sub-Clause 4.2 is in the form of a demand guarantee, and the amount guaranteed under it when the Taking-Over Certificate is issued is more than half of the Retention Money, then the Retention Money guarantee will not be required. If the amount guaranteed under the Performance Bank Guarantee when the Taking-Over Certificate is issued is less than half of the Retention Money, the Retention Money guarantee will only be required for the difference between half of the Retention Money and the amount guaranteed under the Performance Bank Guarantee”.

#### **14.9 Statement at Completion**

Within 45 days after receiving the Taking-Over Certificate for the Works, the Contractor shall submit to the Engineer 3 copies of a Statement at completion with supporting documents, in accordance with Sub-Clause 14.3 [Application for Interim Payment Certificates], showing:

- (a) the value of all work done in accordance with the Contract up to the date stated in the Taking-Over Certificate for the Works,
- (b) any further sums which the Contractor considers to be due, and

#### **14.10 Application for Final Payment Certificate**

The **Contractor** shall submit his final Interim Payment Application for the works within three months of completion of works. The Interim Payment Application shall be based only on works as measured and at accepted agreement rates including rates for any additional or extra work which might have been sanctioned by the **Employer**. All deductions due under the contract shall be made.



The Contractor shall submit the following guarantee certificates and documents before submission of Application for Final Payment Certificate:

- a) As - built drawings.
- b) Material Test Reports as called for.
- c) Measurement Reports
- d) Any other Material and work inspection reports called for by Engineering Consultant / Employer or its Representative as found necessary.

All Bidders are expected to note the aforesaid provisions before Tendering for the work and cover their rates to fulfill obligations as called for.

#### **Final Interim Payment:**

Final Interim Payment Application shall be submitted by the **Contractor** within three months from the date of completion of works.

The Engineer shall certify the Final Interim Payment Application within two months of submission in complete shape with all required documents subject to finalization of extra claims, if any.

The Employer shall make payment for the Final Interim Payment Application within one month from the date of certification of Final Interim Payment Application by the Engineer.

#### **Deduction in Final Interim Payment Application:**

- a. Applicable deductions as per Conditions of Contract.
- b. Any money recoverable from the **Contractor**.
- c. All interim payments effected.

If the Engineer disagrees with or cannot verify any part of the draft final statement, the Contractor shall submit such further information as the Engineer may reasonably require within 15 days from receipt of the said draft and shall make such changes in the draft as may be agreed between them. The Contractor shall then prepare and submit to the Engineer the final statement as agreed. This agreed statement is referred to in these Conditions as the "Final Statement".

However if, following discussions between the Engineer and the Contractor and any changes to the draft final statement which are agreed, it becomes evident that a dispute exists, the Engineer shall deliver to the Employer (with a copy to the Contractor) an Interim Payment Certificate for the agreed parts of the draft final statement. Thereafter, if the dispute is finally resolved under Clause 20.4 [Obtaining Dispute Board's Decision] or Clause 20.5 [Amicable Settlement], the Contractor shall then prepare and submit to the Employer (with a copy to the Engineer) a Final Statement.

#### **14.11 Discharge**

When submitting the Final Statement, the Contractor shall submit a discharge which confirms that the total of the Final Statement represents full and final settlement of all moneys due to the Contractor under or in connection with the Contract. This discharge may state that it becomes effective when the Contractor has received the Performance Bank Guarantee and the out -standing balance of this total in which event the discharge will be effective on such date.

#### **14.12 Issue of Final Payment Certificate**

Within 30 days after receiving the Final Statement and discharge in accordance with Sub-Clause 14.10 [Application for Final Payment Certificate] and Sub-Clause 14.11 [Discharge], the Engineer shall deliver, to the Employer and to the Contractor, the Final Payment Certificate which shall state:

- (a) the amount which he fairly determines is finally due, and

- (b) after giving credit to the Employer for all amounts previously paid by the Employer and for all sums to which the Employer is entitled, the balance (if any) due from the Employer to the Contractor or from the Contractor to the Employer, as the case maybe”.

If the Contractor has not applied for a Final Payment Certificate in accordance with Sub-Clause 14.10 [Application for Final Payment Certificate] and Sub-Clause 14.11 [Discharge], the Engineer shall request the Contractor to do so. If the Contractor fails to submit an application within a period of 30 days, the Engineer shall issue the Final Payment Certificate for such amount as he fairly determines to be due.

#### **14.13 Cessation of Employer's Liability**

The Employer shall not be liable to the Contractor for any matter or thing under or in connection with the Contract or execution of the Works, except to the extent that the Contractor shall have included an amount expressly for it:

- (a) in the Final Statement and also
- (b) (except for matters or things arising after the issue of the Taking-Over Certificate for the Works) in the Statement at completion described in Sub- Clause 14.9 [Statement at Completion].

However, this Sub-Clause shall not limit the Employer's liability under his indemnification obligations, or the Employer's liability in any case of fraud, deliberate default or reckless misconduct by the Employer.

#### **14.14 Currencies of Payment**

The Contract Price shall be paid in the Indian currency in which the bid price was expressed in the Letter of Bid. If more than one currency is so named, payments shall be made as follows:

- (a) payment of the damages specified in GC 8.7, shall be made in the currencies and proportions specified in the Letter of Bid;
- (b) other payments to the Employer by the Contractor shall be made in the currency in which the sum was expended by the Employer, or in such currency as may be agreed by both Parties;
- (c) if any amount payable by the Contractor to the Employer in a particular currency exceeds the sum payable by the Employer to the Contractor in that currency, the Employer may recover the balance of this amount from the sums otherwise payable to the Contractor in other currencies; and
- (d) the applicable rates of exchange shall be those prevailing on the Base Date and determined by the central bank of the Country.

### **15. Termination by Employer (Owner)**

#### **15.1. Notice for Corrective Action**

If the Contractor fails to carry out any of his obligations, responsibilities under the Contract (as per the detailed specifications and conditions as provided in all the relevant contractual documents and any amendments thereto), the Engineer may by notice require the Contractor to take such required corrective actions in order to make good any such failure on the part of Contract and to remedy such failure within 15 days from the date of notice.

**15.2. Termination by Employer**

The Employer shall be entitled to terminate the Contract if the Contractor:

- a) fails to comply with Sub-Clause 4.2 [Performance Bank Guarantee] or with a notice under Sub-Clause .1 [Notice to Correct],
- b) abandons the Works or otherwise plainly demonstrates the intention not to continue performance of his obligations under the Contract,
- c) without reasonable excuse fails:
  - 1. to proceed with the Works in accordance with Clause 8 [Commencement, Delays and Suspension], or
  - 2. to comply with a notice issued under Sub-Clause 7.5 [Rejection] or Sub- Clause 7.6 [Remedial Work], within 15 days after receiving it,
- d) subcontracts the whole of the Works or assigns the Contract without the required agreement,
- e) becomes bankrupt or insolvent, goes into liquidation, has a receiving or administration order made against him, compounds with his creditors, or carries on business under a receiver, trustee or manager for the benefit of his creditors, or if any act is done or any event occurs which (under applicable Laws) has a similar effect to any of these acts or events, or
- f) gives or offers to give (directly or indirectly) to any person any bribe, gift, gratuity, commission or other thing of value, as an inducement or reward:
  - 1. for doing or forbearing to do any acting relation to the Contract, or
  - 2. for showing or forbearing to show favour or disfavour to any person in relation to the Contract,

or if any of the Contractor's Personnel, agents or Subcontractors gives or offers to give (directly or indirectly) to any person any such inducement or reward as is described in this sub-paragraph. However, any lawful inducements and rewards to Contractor's Personnel shall not entitle termination.

In any of these events or circumstances, the Employer may, upon giving 15 days' notice to the Contractor, terminate the Contract and expel the Contractor from the Site. Such termination shall take effect on expiry of the 15 days. However, in the case of sub-paragraph (e) or (f), the Employer may by notice terminate the Contract immediately. The Employer's election to terminate the Contract shall not prejudice any other rights of the Employer, under the Contract or otherwise.

The Contractor shall then leave the Site and deliver any required Goods, all the Contractor's Documents, and other design documents made by or for him, to the Engineer. However, the Contractor shall use his best efforts to comply immediately with any reasonable instructions included in the notice (i) for the assignment of any subcontract, and (ii) for the protection of life or property or for the safety of the Works.

After termination, the Employer may complete the Works and/or arrange for any other entities to do so. The Employer and these entities may then use any Goods, Contractor's Documents and other design documents made by or on behalf of the Contractor.

The Employer shall then give notice that the Contractor's Equipment and Temporary Works will be released to the Contractor at or near the Site. The Contractor shall promptly arrange their removal, at the risk and cost of the Contractor. However, if by this

time the Contractor has failed to make a payment due to the Employer, these items may be sold by the Employer in order to recover this payment. Any balance of the proceeds shall then be paid to the Contractor.

### **15.3. Valuation at Date of Termination**

As soon as practicable after a notice of termination under Sub-Clause 15.2 [Termination by Employer] has taken effect, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine the value of the Works, Goods and Contractor's Documents, and any other sums due to the Contractor for work executed in accordance with the Contract.

### **15.4. Payment after Termination**

After a notice of termination under Sub-Clause 15.2 [Termination by Employer] has taken effect, the Employer may:

- (a) proceed in accordance with Sub-Clause 2.4 [Employer's Claims]
- (b) withhold further payments to the Contractor until the costs of design, execution, completion and remedying of any defects, damages for delay in completion (if any), and all other costs incurred by the Employer, have been established, and/or
- (c) recover from the Contractor any losses and damages incurred by the Employer and any extra costs of completing the Works, after allowing for any sum due to the Contractor under Sub-Clause 15.3 [Valuation at Date of Termination]. After recovering any such losses, damages and extra costs, the Employer shall pay any balance to the Contractor.

### **15.5. Employer's Entitlement to Termination for Convenience**

The Employer shall be entitled to terminate the Contract, at any time for the Employer's convenience, by giving notice of such termination to the Contractor. The termination shall take effect 15 days after the later of the dates on which the Contractor receives this notice or the Employer returns the Performance Bank Guarantee.

After this termination, the Contractor shall proceed in accordance with Sub-Clause 16.3 [Cessation of Work and Removal of Contractor's Equipment] and shall be paid in accordance with Sub-Clause 19.6 [Optional Termination, Payment and Release].

### **15.6. Corrupt or Fraudulent Practice**

If the Employer determines that the Contractor has engaged in corrupt, fraudulent, collusive or coercive practices, in competing for or in executing the Contract, then the Employer may, after giving 15 days' notice to the Contractor, terminate the Contractor's engagement under the Contract and expel him from the Site, and the provisions of Clause shall apply as if such expulsion had been made under Sub-Clause 15.2 [Termination by Employer].

Should any employee of the Contractor be determined to have engaged in corrupt, fraudulent, collusive or coercive practice during the execution of the Works, then that specific employee shall be removed in accordance with Sub-Clause 6.9 [Contractor's Personnel].

For the purpose of this Sub-Clause:

- i. "corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the act of a public official in the procurement process or in the Contract execution.

- ii. “fraudulent practice” means any misrepresentation of facts in order to influence a procurement process or the execution of the Contract to the detriment of the Borrower, and includes any collusive practice among Bidders (prior to or after bid submission) in order to establish bid prices at artificially non-competitive levels and to deprive the Employer of the benefits of free and open competition.
- iii. “collusive practice” means a scheme or arrangement between two or more bidders, with or without the knowledge of the Borrower, designed to establish bid prices at artificial, non-competitive levels.
- iv. “coercive practice” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the procurement process or affect the execution of contract.

## **16. Suspension & Termination by Contractor**

### **16.1. Contractor’s Entitlement to Suspend Work**

**16.1.1** If the Engineer fails to certify in accordance with Sub-Clause 14.6 [Issue of Interim Payment Certificates] or Sub-Clause 14.7 [Payment], the Contractor may, after giving not less than 21 days' notice to the Employer, suspend work (or reduce the rate of work) unless and until the Contractor has received the Payment Certificate, reasonable evidence or payment, as the case may be and as described in the notice.

**16.1.2** The contractor can also notice the Engineer in the following case requiring the Engineer to make good the failure and to remedy it within a specified reasonable time.

(a) In case if the Employer substantially fails to perform his obligations under the Contract in such manner as to materially and adversely affect the economic balance of the Contract and/or the ability of the Contractor to perform the Contract,

The Contractor's action shall not prejudice his entitlements to financing charges under Sub-Clause 14.8 [Delayed Payment] and to termination under Sub-Clause 16.2 [Termination by Contractor]. If the Contractor subsequently receives such Payment Certificate, evidence or payment (as described in the relevant Sub-Clause and in the above notice) before giving a notice of termination, the Contractor shall resume normal working as soon as is reasonably practicable.

If the Contractor suffers delay and/or incurs Cost as a result of suspending work (or reducing the rate of work) in accordance with this Sub-Clause, the Contractor shall give notice to the Engineer and shall be entitled subject to:

- a. an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
- b. payment of any such Cost plus profit, which shall be included in the Contract Price.

After receiving this notice, the Engineer shall proceed in accordance with Sub- Clause 3.5 [Determinations] to agree or determine these matters.

### **16.2. Termination by Contractor**

The Contractor shall be entitled to terminate the Contract if:

- a. the Engineer fails, within 56 days after receiving a Statement and supporting documents, to issue the relevant Payment Certificate,
- b. the Contractor does not receive the amount due under an Interim Payment Certificate within 42days after the expiry of the time stated in Sub-Clause 14.7

[Payment] within which payment is to be made (except for deductions in accordance with Sub-Clause 2.4 [Employer's Claims]),

- c. the Employer substantially fails to perform his obligations under the Contract in such manner as to materially and adversely affect the economic balance of the Contract and/or the ability of the Contractor to perform the Contract,
- d. the Employer fails to comply with Sub-Clause 1.6 [Contract Agreement] or Sub-Clause 1.7[Assignment],
- e. prolonged suspension affects the whole of the Works as described in Sub-Clause 8.11 [Prolonged Suspension], or
- f. the Employer becomes bankrupt or insolvent, goes into liquidation, has a receiving or administration order made against him, compounds with his creditors, or carries on business under a receiver, trustee or manager for the benefit of his creditors, or if any act is done or event occurs which (under applicable Laws) has a similar effect to any of these acts or events.

In any of these events or circumstances, the Contractor may, upon giving 30 days' notice to the Employer, terminate the Contract. However, in the case of sub- paragraph (f), the Contractor may by notice terminate the Contract immediately.

The Contractor's election to terminate the Contract shall not prejudice any other rights of the Contractor, under the Contract or otherwise.

In cases where the Employer has issued a notice under GCC Sub-Clause 15.1 to correct, the contractor cannot invoke GCC Sub-clause 16.2 without compliances to such notice. However he may initiate a notice under GCC Sub-Clause 16.1 and thereafter only he can take steps under GCC Sub-Clause 16.2

### **16.3. Cessation of Work and Removal of Contractor's Equipment**

After a notice of termination under Sub-Clause 15.5 [Employer's Entitlement to Termination], Sub-Clause 16.2 [Termination by Contractor] or Sub-Clause 19.6 [Optional Termination, Payment and Release] has taken effect, the Contractor shall promptly:

- a. cease all further work, except for such work as may have been instructed by the Engineer for the protection of life or property or for the safety of the Works,
- b. hand over Contractor's Documents, Plant, Materials and other work, for which the Contractor has received payment, and
- c. remove all other Goods from the Site, except as necessary for safety, and leave the Site.

### **16.4. Payment on Termination**

After a notice of termination under Sub-Clause 16.2 [Termination by Contractor] has taken effect, the Employer shall promptly:

- a. return the Performance Bank Guarantee to the Contractor,
- b. pay the Contractor in accordance with Sub-Clause 19.6 [Optional Termination, Payment and Release], and
- c. pay to the Contractor the amount of any loss of profit or other loss or damage sustained by the Contractor as a result of this termination.



## **17. Risk and Responsibility**

### **17.1. Indemnities**

The Contractor shall indemnify and hold harmless the Employer, the Employer's Personnel, and their respective agents, against and from all claims, damages, losses and expenses (including legal fees and expenses) in respect of:

- a. bodily injury, sickness, disease or death, of any person whatsoever arising out of or in the course of or by reason of the design, execution and completion of the Works and the remedying of any defects, unless attributable to any negligence, wilful act or breach of the Contract by the Employer, the Employer's Personnel, or any of their respective agents, and
- b. damage to or loss of any property, real or personal (other than the Works), to the extent that such damage or loss arises out of or in the course of or by reason of the design, the execution and completion of the Works and the remedying of any defects, unless and to the extent that any such damage or loss is attributable to any negligence, wilful act or breach of the Contract by the Employer, the Employer's Personnel, their respective agents, or anyone directly or indirectly employed by any of them”.

The Employer shall indemnify and hold harmless the Contractor, the Contractor's Personnel, and their respective agents, against and from all claims, damages, losses and expenses (including legal fees and expenses) in respect of (1) bodily injury, sickness, disease or death, which is attributable to any negligence, wilful act or breach of the Contract by the Employer, the Employer's Personnel, or any of their respective agents, and (2) the matters for which liability may be excluded from insurance cover, as described in subparagraphs (d)(i), (ii) and (iii) of Sub-Clause 18.3 [Insurance Against Injury to Persons and Damage to Property].

### **17.2. Contractor's Care of the Works**

The Contractor shall take full responsibility for the care of the Works and Goods from the Commencement Date until the Taking-Over Certificate is issued (or is deemed to be issued under Sub-Clause 10.1 [Taking Over of the Works and Sections]) for the Works, when responsibility for the care of the Works shall pass to the Employer. If a Taking - Over Certificate is issued (or is so deemed to be issued) for any Section or part of the Works, responsibility for the care of the Section or part shall then pass to the Employer.

After responsibility has accordingly passed to the Employer, the Contractor shall take responsibility for the care of any work which is outstanding on the date stated in a Taking-Over Certificate, until this outstanding work has been completed.

If any loss or damage happens to the Works, Goods or Contractor's Documents during the period when the Contractor is responsible for their care, from any cause not listed in Sub-Clause 17.3 [Employer's Risks], the Contractor shall rectify the loss or damage at the Contractor's risk and cost, so that the Works, Goods and Contractor's Documents conform with the Contract.

The Contractor shall be liable for any loss or damage caused by any actions performed by the Contractor after a Taking-Over Certificate has been issued. The Contractor shall also be liable for any loss or damage which occurs after a Taking- Over Certificate has been issued and which arose from a previous event for which the Contractor was liable.

The Contractor shall ensure that all technology, equipment tools and tackles used to perform and deliver the Services are not obsolete and is kept in good working order at all times.

From the commencement to the certified completion of the whole of Works, the Contractor shall take full responsibility for the care thereof and of all Temporary Works and in case any damage, loss or injury shall happen to the Works or to any part thereof or to any Temporary Works from any cause whatsoever. The Contractor shall at his own cost repair and make good the same so that on completion, the Works shall be in good order and condition and in conformity to every respect with the requirements of the Contract and the Engineers instructions. The Contractor shall indemnify Employer from all risks on this account.

### **17.3. Employer's Risks**

The risks referred to in Sub-Clause 17.4 [Consequences of Employer's Risks] below, in so far as they directly affect the execution of the Works in the Country, are:

- a. war, hostilities (whether war be declared or not), invasion, act of foreign enemies,
- b. rebellion, terrorism, sabotage by persons other than the Contractor's Personnel, revolution, insurrection, military or usurped power, or civil war, within the Country,
- c. riot, commotion or disorder within the Country by persons other than the Contractor's Personnel,
- d. munitions of war, explosive materials, ionising radiation or contamination by radio-activity, within the Country, except as may be attributable to the Contractor's use of such munitions, explosives, radiation or radio-activity
- e. pressure waves caused by aircraft or other aerial devices travelling at sonic or supersonic speeds,
- f. use or occupation by the Employer of any part of the Permanent Works, except as may be specified in the Contract,
- g. design of any part of the Works by the Employer's Personnel or by others for whom the Employer is responsible, if any, and
- h. any operation of the forces of nature which is Unforeseeable or against which an experienced contractor could not reasonably have been expected to have taken adequate preventative precautions.

### **17.4. Consequences of Employer's Risks**

If and to the extent that any of the risks listed in Sub-Clause 17.3 above results in loss or damage to the Works, Goods or Contractor's Documents, the Contractor shall promptly give notice to the Engineer and shall rectify this loss or damage to the extent required by the Engineer.

If the Contractor suffers delay and/or incurs Cost from rectifying this loss or damage, the Contractor shall give a further notice to the Engineer and shall be entitled subject to:

- a. an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
- b. payment of any such Cost, which shall be included in the Contract Price. In the case of subparagraphs (f) and (g) of Sub-Clause 17.3 [Employer's Risks], Cost plus profit shall be payable.

After receiving this further notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

**17.5. Intellectual and Industrial Property Rights**

In this Sub-Clause, "infringement" means an infringement (or alleged infringement) of any patent, registered design, copyright, trade mark, trade name, trade secret or other intellectual or industrial property right relating to the Works; and "claim" means a claim (or proceedings pursuing a claim) alleging an infringement.

Whenever a Party does not give notice to the other Party of any claim within 28 days of receiving the claim, the first Party shall be deemed to have waived any right to indemnity under this Sub-Clause.

The Employer shall indemnify and hold the Contractor harmless against and from any claim alleging an infringement which is or was:

- a. an unavoidable result of the Contractor's compliance with the Employer's Requirements, or
- b. a result of any Works being used by the Employer:
  - i. for a purpose other than that indicated by, or reasonably to be inferred from, the Contract, or
  - ii. in conjunction with anything not supplied by the Contractor, unless such use was disclosed to the Contractor prior to the Base Date or is stated in the Contract.

The Contractor shall indemnify and hold the Employer harmless against and from any other claim which arises out of or in relation to (i) the Contractor's design, manufacture, construction or execution of the Works, (ii) the use of Contractor's Equipment, or (iii) the proper use of the Works.

If a Party is entitled to be indemnified under this Sub-Clause, the indemnifying Party may (at its cost) conduct negotiations for the settlement of the claim, and any litigation or arbitration which may arise from it. The other Party shall, at the request and cost of the indemnifying Party, assist in contesting the claim. This other Party (and its Personnel) shall not make any admission which might be prejudicial to the indemnifying Party, unless the indemnifying Party failed to take over the conduct of any negotiations, litigation or arbitration upon being requested to do so by such other Party.

**17.6. Limitation of Liability**

Neither Party shall be liable to the other Party for loss of use of any Works, loss of profit, loss of any contract or for any indirect or consequential loss or damage which may be suffered by the other Party in connection with the Contract, other than as specifically provided in Sub-Clause 8.7 [Delay Damages]; Sub-Clause 11.2 [Cost of Remedying Defects]; Sub-Clause 16.4 [Payment after Termination]; Sub-Clause 16.4 [Payment on Termination]; Sub-Clause 17.1 [Indemnities]; Sub-Clause 17.4 (b) [Consequences of Employer's Risks] and Sub-Clause 17.5 [Intellectual and Industrial Property Rights].

The total liability of the Contractor to the Employer, under or in connection with the Contract other than under Sub-Clause 4.19 [Electricity, Water and Gas], Sub-Clause 4.20 [Employer's Equipment and Free-Issue Material], Sub-Clause 17.1 [Indemnities] and Sub-Clause 17.5 [Intellectual and Industrial Property Rights], shall not exceed the sum resulting from the application of a multiplier (less or greater than one) to the Accepted Contract Amount, as stated in the Contract Data, or (if such multiplier or other sum is not so stated), the Accepted Contract Amount.

This Sub-Clause shall not limit liability in any case of fraud, deliberate default or reckless misconduct by the defaulting Party.

**17.7. Use of Employer's Accommodation / Facilities**

The Contractor shall take full responsibility for the care of the Employer-provided accommodation and facilities, if any, as detailed in the Employer's Requirements, from the respective dates of hand-over to the Contractor until cessation of occupation (where hand-over or cessation of occupation may take place after the date stated in the Taking-Over Certificate for the Works).

If any loss or damage happens to any of the above items while the Contractor is responsible for their care arising from any cause whatsoever other than those for which the Employer is liable, the Contractor shall, at his own cost, rectify the loss or damage to the satisfaction of the Engineer.

**18. Insurance**

18.1. All insurance policies required by the BIDDER(s) shall be arranged & paid by Bidders. These policies shall be deposited with the Owner. The policies shall be in the joint names of the Owner and BIDDER. The Value of the BIDDER'S ALL RISK POLICY (CAR) shall be that of the total value of works except O&M cost. The owner shall mention this overall amount to the BIDDER upon award of works to the BIDDER.

- a) The BIDDER will be responsible for the premium in connection with extending the period(s) of insurance covers in the event that the BIDDER fails to complete the works within the stipulated time.
- b) The BIDDER shall be responsible for all injury or damage to persons, animals or things and for all damage to property which may arise from any act or omission on Use part of the BIDDER.
- c) The liability under this clause shall cover also, inter alia, any damage to structures, whether immediately adjacent to the works or otherwise, any damage to roads, streets, footpaths, bridges as well as damage caused to the buildings and other structures and works forming the subject matter of this Contract. The BIDDER shall also be responsible for any damage caused to the buildings and other structures and works forming the subject matter of this Contract due to rain, wind, frost or other inclemency of weather.
- d) The BIDDER shall indemnify and keep indemnified the Owner and hold him harmless in respect of all and any loss and expenses arising from any such injury or damage to persons or property as aforesaid and also against any claim made in respect of injury or damage, whether under any statute or otherwise and also in respect of any award or compensation or damage consequent upon such claim.
- e) The BIDDER shall, at his own expense, effect and maintain till the issue of the completion certificate under this Contract, with an insurance company, a Plant & Machinery Policy of insurance including earthquake risk in the joint names of the Owner and the BIDDER (the name of the former being placed first in the policy) against all risk by fire, burglary, strikes, riots and civil commotion and natural calamities like floods, earthquake, explosion etc. before commencing the works.
- f) The BIDDER shall reinstate all damage of every sort mentioned in this clause so as to deliver up the whole of the works complete and perfect in every respect and so as

to make good or otherwise satisfy all claims for damage to property of third parties including neighboring buildings etc.

- g) The Owner shall also be protected against all claims in respect of damages to third parties including the Owner's staff, visitors, neighbors and other passers-by which may be made against the Owner by any person in respect of anything which may arise in respect of the works or in consequence thereof or due to accidents on account of the incidental risks which may occur during the execution of works and the BIDDER shall, at his own expense, effect and maintain, until the completion of the Contract, with an Insurance Company approved by the Owner a policy of Insurance in the joint names of the Owner and the BIDDER (name of the former being placed first in the policy) against such risks and deposit such policy or policies before commencement of the works. The minimum limit of the coverage under the Policy shall be Rs. 5.00 lakhs (Rupees Five Lakhs Only) for every accident or occurrence, there being no limit on the number of such occurrences. The same shall have currency through the period of completion of all works as certified by the Engineering Consultant / Employer or its Representatives.
- h) The BIDDER shall also indemnify the Owner against all claims made upon the Owner, whether under the Workmen's Compensation Act or any other statute in force during the currency of this Contract or at Common Law in respect of any employee of the BIDDER or of any Sub-Contractor and shall at his own expense effect and maintain until the completion of the Contract, with an insurance company, approved by the Owner, a Policy of Insurance against such risks and deposit such policy or policies with the Owner from time to time during the currency of this Contract.
- i) Transit Insurance: In respect of all items to be transported by the BIDDER to the site of work, the cost of transit insurance shall be borne by the BIDDER and the quoted price shall be inclusive of such cost.
- j) All claim amounts against the policy shall be payable to the Owner and not to the BIDDER. The BIDDER shall keep the policy renewed from time to time until the Certificate of Completion is issued by the Owner. If at any time the policy so obtained and kept with the Owner expires, it shall be lawful for the Owner to stop further payments until the duly renewed policy is lodged with the Owner.
- k) The BIDDER shall be responsible for tiny liability which may not be covered by the Insurance Policies referred to above and also for all other damages to any person, animal or defective carrying out of this Contract, whatever may be the reasons due to which the damage shall have been caused.
- l) The BIDDER shall also indemnify and keep indemnified the Owner against all and any cost, charges or expenses arising out of any claim or proceedings relating to the works and also in respect of any award of damages or compensation arising there from.
- m) Without prejudice to the other rights of the Owner against BIDDER in respect of such default, the Owner shall be entitled to deduct from any sums payable to the BIDDER the amount of any damages, compensation costs, charges and other expenses paid by the Owner and which are payable by the BIDDER under this clause.

- n) The BIDDER shall, upon settlement by the Insurer of any claim made against the Insurer pursuant to a policy taken under this clause, proceed with due diligence to rebuild or repair the works destroyed or damaged. In this event all the monies received from the Insurer in respect of such damage shall be paid to the BIDDER and for the BIDDER shall not be entitled to any further payment in respect of the expenditure incurred for rebuilding or repairing of the materials or goods destroyed or damaged.
- o) The BIDDER, in case of re-building or reinstatement after fire, shall be entitled to such extension of time for completion as the Engineering Consultant / Employer or its Representative may deem fit, but shall, however, not be entitled to reimbursement by the Owner of any shortfall or deficiency in the amount finally paid by the insurer in settlement of any claim arising as set out herein.
- p) Without prejudice to his liability under this clause, the BIDDER shall also cause all Direct Sub-Contractors to effect, for their respective portions of the works, similar policies of insurance in accordance with the provisions of this clause and shall produce or cause to produce to the Owner such policies. The BIDDER shall not permit a Direct Sub-Contractor to commence work at the site unless the said insurance policies are submitted. In the event of failure of the Sub-Contractor to take out such a policy of insurance before commencing the works at the site, the BIDDER shall be responsible for any claim or damage attributable to the said Sub- Contractor.
- q) The BIDDER shall be responsible for the insurance of his plant, tools and equipment

#### **18.2. Injury to persons & property of owner:**

- a) The BIDDER shall be liable for and shall indemnify the Owner against any liability, loss, claim or proceedings whatsoever arising under any statute or at common law in respect of personal injury to or the death of any person whomsoever arising out of or in the course of or caused by the carrying out of the works, unless such claim arises due to any act or neglect of the Owner or of any person for whom the Owner is responsible.
- b) Except for such loss or damages as is at the risk of the Owner, the BIDDER shall be liable for and shall indemnify the Owner against any expense, liability, loss, claim or proceedings in respect of any injury or damage whatsoever to any property movable or immovable in so far as such injury or damage arises out of or is in the course of or by reason of the carrying out of the works, and provided always that the- same is due to any negligence, omission or default of the BIDDER, his servants or agents or of any Sub-Contractor, his servant or agent.

#### **18.3. Insurance against Injury to Persons and Property**

Without Prejudice to his liability to indemnify the Owner, the BIDDER shall maintain and shall cause any Sub-Contractor to maintain:

Such insurances as are necessary to cover the liability of the BIDDER or as the case may be of such Sub-Contractor, in respect of personal injuries or deaths arising out of or in the course of or caused by the carrying out of the work; and Such insurances as may be specifically required by the Contract Bills in respect of injury or damage to property movable or immovable arising out of or in the course of or by reason of the carrying out of the work, and caused by any negligence, omission or default of the BIDDER , his servants or agents or, as the case may be of such Sub-Contractor, his servants or



agents.

The BIDDER shall produce or cause any Sub-Contractor to produce for inspection the relevant policy or policies of insurance together with the receipts in respect of premiums policy under such policy or policies as and when required to do by the Engineering Consultant / Employer or its Representative. Provided always that as and when may be reasonably required by the Engineering Consultant / Employer or its Representative the production by either the BIDDER or any Sub-Contractor of a current certificate of insurance from the company or firm which shall have issued the policy or policies aforesaid shall be a good discharge of the BIDDER'S obligation to produce or La cause the production of the policy or Policies and the receipts in respect of premium paid.

The BIDDER shall maintain in the joint names of the Owner and BIDDER for such insurances as may be required in respect of any expense, liability, loss, claim or proceedings which the Owner may incur or sustain by reason of injury or damage to property real or personal arising out of or in the course of or by reason of the carrying out of the work, and caused otherwise than by the, negligence, omission or default of the BIDDER, his servants or agents or any Sub-Contractor, his servants or agents.

Any such insurance as is referred to in the immediately preceding paragraph shall be placed with insurers to be approved by the Engineering Consultant / Employer or its Representative and the BIDDER shall have to deposit with him the policy or policies and the receipts in respect of premiums paid for scrutiny by the Engineering Consultant / Employer or its Representative.

Should the BIDDER or any Sub-Contractor make default in insuring or in continuing to insure as provided in this clauses of these Conditions the Owner may himself insure against any risk with respect to which the default shall have occurred and may deduct a sum equivalent to the amount paid in respect of premiums from any monies due to or to become due to the BIDDER.

The BIDDER shall be responsible for any injury to persons, animals or things and for all structural damage to property which may arise from the operation or neglect of himself and or any nominated Direct Sub-Contractors, or Direct Sub-Contractors I BIDDER's Employees and or third party whether such injury or damage arising from carelessness, accident or any other cause whatsoever, in any way connected with the execution of work. The cover taken by the BIDDER towards Third Party Liability shall be for a minimum value as specified in Contract Data for a single event and there shall be no upper limit on the number of such events. The Bidders are expected to include all the charges towards taking all insurance cover, charges towards premium etc., in the quoted rates and no extras I claims shall be entertained on account of the Bidders' failure to comply with this requirement. The BIDDER shall take required insurance cover from an approved insurance company and deposit the policy with the Owner well before commencement of work.

#### **18.4. Insurance of the Works against Fire Etc.**

- a) The BIDDER shall in the joint names of the Owner and themselves insure against loss or damage by fire, storm, tempest, lightning, flood, earthquake, aircraft or anything dropped there from, aerial objects, riot and civil commotion for the full value thereof all work executed and all unfixed materials and goods intended for, delivered to and placed on or adjacent to the work, but excluding temporary building plant,

tools and equipment owned or hired by the BIDDER or any Sub-Contractor and shall keep such work, materials and goods so insured until Completion of the work. Such insurances shall be with insurers approved by the Engineering Consultant / Employer or its Representative and the BIDDER shall deposit with the Engineering Consultant / Employer or its Representative, the policy or policies and the receipts in respect of premiums paid and, should the BIDDER make default in insuring or continuing to insure as aforesaid the Owner may himself insure against any risk with respect of which the default shall have occurred and deduct a sum equivalent to the amount paid by him in respect of premium from any monies due to or to become due to the BIDDER.

- b) Provided always that if the BIDDER shall independently of his obligations under this Contract maintain a policy of insurance which covers (inter alia) the said work, materials and goods against the aforesaid contingencies to the full value thereof then the maintenance by the BIDDER of such policy shall (if the owner's interest is endorsed thereon, be a discharge of the TENDRER's obligation to insure in the joint names of the owner and BIDDER and the production by the BIDDER as and when may reasonably be required by Engineering Consultant / Employer or its Representative of a current certificate of insurance from the company or firm which shall have issued the said policy shall be a discharge of the BIDDER's obligation to deposit with the Engineering Consultant / Employer or its Representative a policy or policies and the receipts in respect of premiums paid.
- c) Upon settlement of any claim under the insurances aforesaid the BIDDER with due diligence shall restore work damaged, replace or repair unfixed materials or goods which have been damaged or destroyed, remove or dispose of any debris and proceed with the carrying out and completion of the work. All monies received from such insurances shall be paid to the BIDDER by installments under certificates of the Engineering Consultant / Employer or its Representative issued at the period of final certificates named in the appendix to these Conditions. The BIDDER shall not be entitled to payment in respect of the restoration of work damaged, the replacement and repair of any unfixed materials or goods and the removal and disposal of debris other than the monies received under the said insurances.
- d) All work executed and all unfixed materials and goods intended for, delivered to and placed on or adjacent to the works (except temporary buildings, tools and equipment owned or hired by the BIDDER or any Sub-Contractor) shall be at the sole risk of the BIDDER as regards loss or damage by fire, storm, tempest, lightning, flood, earthquake, aircraft or anything dropped there from, aerial objects, riot and civil commotion. If any loss or damage affecting the work or any part thereof or any such unfixed materials or goods is occasioned by any one or more of the said contingencies then:
- e) The occurrence of such loss or damage shall be disregarded in computing any amounts payable to the BIDDER under or by virtue of this Contract. The BIDDER with due diligence shall restore work damaged, replace or repair any unfixed materials or goods which have been destroyed or damaged, remove and dispose of any debris and proceed with carrying out and completion of the work. The restoration of work damaged, the replacement and repair of unfixed materials and goods and the removal and disposal of debris shall be deemed to be a variation required by the Engineering Consultant / Employer or its Representative.

## **19. Force Majeure**

### **19.1. Definition of Force Majeure**

In this Clause, "Force Majeure" means any exceptional event or circumstance:

which is beyond a Party's control,

which such Party could not reasonably have provided against before entering into the Contract,

which, having arisen, such Party could not reasonably have avoided or overcome, and

which is not substantially attributable to the other Party.

Force Majeure may include, but is not limited to, exceptional events or circumstances of the kind listed below, so long as conditions (a) to (d) above are satisfied:

1. war, hostilities (whether war be declared or not), invasion, act of foreign enemies, mobilization, requisition of embargo.
2. rebellion, terrorism, sabotage by persons other than the Contractor's Personnel, revolution, insurrection, military or usurped power, or civil war,
3. riot, commotion, disorder, strike or lockout by persons other than the Contractor's Personnel,
4. munitions of war, explosive materials, ionising radiation or contamination by radioactivity from any nuclear fuel or from any nuclear waste from the combustion of nuclear fuel, radio-active toxic explosives, or other hazardous properties of any nuclear assembly or nuclear components thereof, except as may be attributable to the Contractor's use of such munitions, explosives, radiation or radio- activity
5. natural catastrophes such as earthquake (above magnitude of 7 on the Richter Scale), hurricane, typhoon or volcanic activity, lightning, unprecedented floods.

### **19.2. Notice of Force Majeure**

If a Party is or will be prevented from performing its substantial obligations under the Contract by Force Majeure, then it shall give notice to the other Party of the event or circumstances constituting the Force Majeure and shall specify the obligations, the performance of which is or will be prevented (or delayed) . The notice shall be given within 15 days after the Party became aware, or should have become aware, of the relevant event or circumstance constituting Force Majeure.

The Party shall, having given notice, be excused performance of its obligations for so long as such Force Majeure prevents it from performing them.

Notwithstanding any other provision of this Clause, Force Majeure shall not apply to obligations (which have already accrued before such Force Majeure) of either Party to make payments to the other Party under the Contract

The foregoing provisions shall apply only where the Contractors obtained from the Engineer/Employer recognition of the same event.

The Engineer/Employer or the Contractor shall not be liable for delays in performing their  
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respective obligations resulting from any Force Majeure cause as referred to and/or defined above.

The party affected by the event of Force Majeure shall use reasonable efforts to mitigate the effect thereof upon its performance of the Contract and to fulfil its or their obligations under the Contract but without prejudice to either party's right to terminate the Contract.

### **19.3. Duty to Minimize Delay**

Each Party shall at all times use all reasonable endeavours to minimise any delay in the performance of the Contract as a result of Force Majeure.

A Party shall give notice to the other Party when it ceases to be affected by the Force Majeure.

### **19.4. Consequences of Force Majeure**

If the Contractor is prevented from performing his substantial obligations under the Contract by Force Majeure of which notice has been given under Sub-Clause 19.2 [Notice of Force Majeure], and suffers delay and/or incurs Cost by reason of such Force Majeure, the Contractor shall be entitled, subject to:

- a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
- b) if the event or circumstance is of the kind described in sub-paragraphs(i) to (v) of Sub-Clause 19.1 [Definition of Force Majeure] and, in the case of sub- paragraphs (ii) to (iv), occurs in the Country, payment of any such Cost, including the costs of rectifying or replacing the Works and/or Goods damaged or destroyed by Force Majeure, to the extent they are not indemnified through the insurance policy referred to in Sub-Clause 18.2 [Insurance for Works and Contractor's Equipment].

After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] either to agree or determine these matters.

### **19.5. Force Majeure Affecting Sub-contractor/JV Partner**

If any Subcontractor/ JV Partner is entitled under any contract or agreement relating to the Works to relief from Force Majeure on terms additional to or broader than those specified in this Clause, such additional or broader Force Majeure events or circumstances shall not excuse the Contractor's non-performance or entitle him to relief under this Clause.

### **19.6. Optional Termination, Payment and Release**

If the execution of substantially all the Works in progress is prevented for a continuous period of 90 days by reason of Force Majeure of which notice has been given under Sub-Clause 19.2 [Notice of Force Majeure], or for multiple periods which total more than 150 days due to the same notified Force Majeure, then either Party may give to the other Party a notice of termination of the Contract. In this event, the termination shall take effect 15 days after the notice is given, and the Contractor shall proceed in accordance with Sub-Clause 16.3 [Cessation of Work and Removal of Contractor's Equipment].

Upon such termination, the Engineer shall determine the value of the work done and issue a Payment Certificate which shall include:

- a) the amounts payable for any work carried out for which a price is stated in the Contract;

- b) the Cost of Plant and Materials ordered for the Works which have been delivered to the Contractor, or of which the Contractor is liable to accept delivery: this Plant and Materials shall become the property of (and be at the risk of) the Employer when paid for by the Employer, and the Contractor shall place the same at the Employer's disposal;
- c) any other Cost or liability which in the circumstances was necessarily, as well as reasonably, incurred by the Contractor in the expectation of completing the Works;
- d) the Cost of removal of Temporary Works and Contractor's Equipment from the Site and the return of these items to the Contractor's works in his country (or to any other destination at no greater cost); and
- e) the Cost of repatriation of the Contractor's staff and labour employed wholly in connection with the Works at the date of termination.

#### **19.7. Release from Performance under the Law**

Notwithstanding any other provision of this Clause, if any event or circumstance outside the control of the Parties (including, but not limited to, Force Majeure) arises which makes it impossible or unlawful for either or both Parties to fulfil its or their contractual obligations or which, under the law governing the Contract, entitles the Parties to be released from further performance of the Contract, then upon notice by either Party to the other Party of such event or circumstance:

- a) the Parties shall be discharged from further performance, without prejudice to the rights of either Party in respect of any previous breach of the Contract, and
- b) the sum payable by the Employer to the Contractor shall be the same as would have been payable under Sub-Clause 19.6 [Optional Termination, Payment and Release] if the Contract had been terminated under Sub-Clause 19.6.

#### **20. Dispute, Dispute Resolution Board & Arbitration**

##### **Disputes:**

If the Contractor be dissatisfied with the decision of the Employer/Engineer on any matter, question or dispute of any kind (except any of the expected matters) or as to the withholding by the Employer/Engineer of any certificate to which the Contractor may claim to be entitled, then and in any such case either party (the Employer or the Contractor) may seek settlement through any of the ALTERNATE DISPUTE RESOLUTION METHODS and shall NOT resort to adversarial methods.

As such any issues or difference of opinions or issues shall be resolved through Conciliation / Mediation / Negotiation and in the event of any persisting disputes arbitration proceedings may be initiated in accordance with Indian Arbitration and Conciliation Act 1996 in force. The venue of Arbitration shall be in Madurai. The Governing Law of this Agreement and of the relations of the parties arising from it and of any arbitration pursuant to it shall be the laws of the Republic of India.

Provided, always that the Employer shall not withhold the payment of an Interim Certificate nor the Contractor except with the consent in writing of the Employer/Engineer with respect to any way delay in execution of the works by reason of any such matters, question or dispute being referred to Arbitration but shall continue to proceed with the work with all due diligence and shall, until completion of Arbitration proceedings, relieve the Contractor of his obligations to adhere strictly to the Employer/Engineer instructions with regard to the actual carrying out of the works.

Further disagreement, if any, after the Arbitration Award may be resolved through Court of Law. All such disputes arising out of matters in connection with this agreement shall be deemed to have arisen at Madurai and only courts in Madurai shall have the jurisdiction to determine the same.

The work shall however be progressed as per time scheduled, independent of such exigencies unless the Employer desires otherwise. However, before resorting to Arbitration the Contractor/ Employer may resort to Conciliation / Mediation / Negotiation in order to resolve any the disputes as a prerequisite.

**20 (a) DISPUTE RESOLUTION BOARD:**

As such a DISPUTE RESOLUTION BOARD (DRB) shall be constituted within one month from the kick start date of the Contract execution. Any kind of difference of opinion or issues in between parties arising out of this Contract shall be resolved amicably in good spirit and good faith by referring the matter to the Disputes Resolution Board; as such any difference of opinion or issues between the Owner and Contractor shall be referred to the DRB for amicable resolution.

The DRB shall have four suitably qualified persons (“the members”), each of whom shall be fluent in English and shall be a professionally experienced in the type of construction involved in the Works.

- TWO Representatives of Client
- ONE Representative of PMC
- ONE Representative of Contractor

Each Party shall nominate their representatives to DRB and the Chairman of DRB shall be elected by DRB members. If at any time either the Owner or Contractor has any issue in hand and both of them so agree, they may jointly refer any such matter to the DRB for resolution of the same and neither Party shall consult the DRB on any matter without concurrence of the other Party. The nomination of any member to DRB may be terminated by the party who nominated him.

The role of DRB shall expire when the contract is discharged effectively. If a dispute (of any kind whatsoever) arises between the Parties in connection with, or arising out of, the Contract or the execution of the Works, including any dispute as to any certificate, determination, instruction, opinion or valuation of the Architect, either Party may (in concurrence with the other Party) refer the issue in writing to the DRB for its amicable resolution, with copies to the other Party and Architect. The DRB shall be deemed to have received such reference on the date when it is received by the Chairman of the DRB.

Parties shall promptly make available to the DRB all such additional information, further access to the Site, and appropriate facilities, as the DRB may require in order to arrive at an amicable resolution on any such dispute referred. The DRB shall be deemed to be NOT acting as Arbitrator(s) but DRB shall make every endeavor in order to amicably resolve any issues referred to it based on the process and principles of Conciliation / Mediation / Negotiation and decisions of DRB shall be on consensus basis.

Within 15 days upon receiving such reference of any issue, or within such other period as may be proposed by the DRB and further approved by Owner and Contractor, the DRB shall resolve the issue on consensual basis and give its decision, which shall be reasoned and such decision shall be binding on both Owner and Contractor, who shall promptly give effect to it. Unless otherwise, the Contract has been already abandoned / repudiated / determined / terminated, the Contractor shall continue to proceed with the Works in accordance with the Contract in spite of any issue referred to DRB. As and when required DRB may take support of an Advocate.

If the DRB could not resolve any issue on consensus basis, then either Party (Owner or



Contractor) may, within 30 days upon receipt of RRB's decision, shall serve a "Notice of Dissatisfaction" to the other Party indicating its dissatisfaction and his intention to commence Arbitration process. If the DRB fails to resolve any referred issue within the period of 45 days (or as otherwise approved) after receiving such reference, then either Party may, within 30 days after this period has expired, give a Notice of Dissatisfaction to the other Party.

In either event, this Notice of Dissatisfaction shall set out the matter in dispute and the reason(s) for dissatisfaction and neither Party shall be entitled to commence Arbitration of any dispute unless a Notice of Dissatisfaction has been served on the other party. If the DRB has given its decision as to a matter in dispute between the Owner and Contractor, and If no Notice of Dissatisfaction has been given by either Party within 30 days after it received the DRB's decision, then the decision of DRB shall become final and binding upon both Parties. If the decision of the DRB requires any payment by one Party to the other Party, the DRB may require the payee to provide an appropriate security in respect of such payment.

In spite of a Notice of Dissatisfaction has been given, both Parties shall attempt to settle the dispute amicably before the commencement of any Arbitration. However, unless otherwise both Parties agree for amicable settlement within 30 days after notice of dissatisfaction has been served, the Party giving such a Notice of Dissatisfaction may move to commence Arbitration after the 30th day from the day on which a Notice of Dissatisfaction was given.

#### **20(b) ARBITRATION:**

In case of dispute or difference arising between the Employer and contractor relating to any matter arising out of or connected with this contract, such dispute or difference shall be settled in accordance with the Arbitration and Conciliation Act, 1996 as amended upto date.

The arbitral tribunal shall consist of 3 arbitrators one each to be appointed by the Employer and the contractor. The third arbitrator shall be chosen by the two arbitrators so appointed by the parties, shall act as presiding arbitrator.

In case of failure of the two arbitrators appointed by the parties to reach upon a consensus within a period of 30 days from the appointment, this shall be done in accordance with the Arbitration and Conciliation Act, 1996 as amended upto date.

If one of the parties fails to appoint its arbitrator in pursuance of clause above within 30 days after receipt of the notice of the appointment of its arbitrator by the other party, then the appointment of the Arbitrator shall be made as per the Arbitration and Conciliation Act, 1996 as amended upto date.

Arbitration proceedings shall be held at Madurai (India) and the languages of the arbitration proceedings and that of all documents and communications between the parties shall be English.

The decision of the majority of arbitrators shall be final and binding upon both parties. The cost and expense of Arbitration proceedings shall be reasonable and will be paid as determined by the arbitral tribunal. However, the expenses incurred by each party in connection with the preparation, presentation, etc. of its proceedings as also the fees and expenses paid to the arbitrator appointed by such party or on its behalf shall be borne by each party itself.

Performance under the contract shall continue during the arbitration proceedings and payments due to the Contractor by the Employer shall not be withheld, unless they are the subject matter of the arbitration proceedings.

Arbitration procedures as per INDIAN ARBITRATION AND CONCILIATION ACT 1996 as amended upto date shall be followed.

Fees and types of reimbursable expenses to be paid to the Arbitrator is Rs. 5,000/- per day plus boarding, lodging, travelling and other charges as per actuals subject to applicable Govt. norms.

Refer APPEDIX-A for General Conditions of Dispute Board Agreement and APPENDIX-B for Procedural Rules

## APPENDIX - A

### General Conditions of Dispute Board Agreement

#### 1. Definitions

Each "Dispute Board Agreement" is a tripartite agreement by and between:

- a) The "Employer";
- b) the "Contractor"; and
- c) the "Member" who is defined in the Dispute Agreement as being:
  - i. the sole member of the "DB" and, where this is the case, all references to the "Other Members" do not apply, or
  - ii. one of the three persons who are jointly called the "DB" (or "dispute board") and, where this is the case, the other two persons are called the "Other Members".

The Employer and the Contractor have entered (or intend to enter) into a contract, which is called the "Contract" and is defined in the Dispute Agreement, which incorporates this Appendix. In the Dispute Agreement, words and expressions which are not otherwise defined shall have the meanings assigned to them in the Contract.

#### 2. General Provisions

Unless otherwise stated in the Dispute Board Agreement, it shall take effect on the latest of the following dates:

- a) the Commencement Date defined in the Contract,
- b) when the Employer, the Contractor and the Member have each signed the Dispute Board Agreement, or
- c) when the Employer, the Contractor and each of the Other Members (if any) have respectively each signed a dispute board agreement.

This employment of the Member is a personal appointment. At any time, the Member may give not less than 70 days' notice of resignation to the Employer and to the Contractor, and the Dispute Agreement shall terminate upon the expiry of this period.

#### 3. Warranties

The Member warrants and agrees that he/she is and shall be impartial and independent of the Employer, the Contractor and the Engineer. The Member shall promptly disclose, to each of them and to the Other Members (if any), any fact or circumstance which might appear inconsistent with his/her warranty and agreement of impartiality and independence.

When appointing the Member, the Employer and the Contractor relied upon the Member's representations that he/she is:

- a) experienced in the work which the Contractor is to carry out under the Contract,
- b) experienced in the interpretation of contract documentation, and
- c) fluent in the language for communications defined in the Contract.

#### **4. General Obligations of the Member**

The Member shall:

- a) have no interest financial or otherwise in the Employer, the Contractor or the Engineer, nor any financial interest in the Contract except for payment under the Dispute Agreement;
- b) not previously have been employed as a consultant or otherwise by the Employer, the Contractor or the Engineer, except in such circumstances as were disclosed in writing to the Employer and the Contractor before they signed the Dispute Agreement;
- c) have disclosed in writing to the Employer, the Contractor and the Other Members (if any), before entering into the Dispute Agreement and to his/her best knowledge and recollection, any professional or personal relationships with any director, officer or employee of the Employer, the Contractor or the Engineer, and any previous involvement in the overall project of which the Contract forms part;
- d) not, for the duration of the Dispute Agreement, be employed as a consultant or otherwise by the Employer, the Contractor or the Engineer, except as may be agreed in writing by the Employer, the Contractor and the Other Members (if any);
- e) comply with the annexed procedural rules and with Clause 20.4 of the Conditions of Contract;
- f) not give advice to the Employer, the Contractor, the Employer's Personnel or the Contractor's Personnel concerning the conduct of the Contract, other than in accordance with the annexed procedural rules;
- g) not while a Member enter into discussions or make any agreement with the Employer, the Contractor or the Engineer regarding employment by any of them, whether as a consultant or otherwise, after ceasing to act under the Dispute Agreement;
- h) ensure his/her availability for any site visit and hearings as are necessary; and (i) treat the details of the Contract and all the DB's activities and hearings as private and confidential, and not publish or disclose them without the prior written consent of the Employer, the Contractor and the Other Members (if any); and
- i) be available to give advice and opinions, on any matter relevant to the Contract when requested by both the Employer and the Contractor, subject to the agreement of the Other Members (if any).

#### **5. General Obligations of the Employer and the Contractor**

The Employer, the Contractor, the Employer's Personnel and the Contractor's Personnel shall not request advice from or consultation with the Member regarding the Contract, otherwise than in the normal course of the DB's activities under the Contract and the Dispute Agreement, and except to the extent that prior agreement is given by the Employer, the Contractor and the Other Members (if any).

The Employer and the Contractor shall be responsible for compliance with this provision, by the Employer's Personnel and the Contractor's Personnel respectively. The Employer and the Contractor undertake to each other and to the Member that the Member shall not, except as otherwise agreed in writing by the Employer, the Contractor, the Member and the Other Members (if any):

- (a) be appointed as an arbitrator in any arbitration under the Contract;

- (b) be called as a witness to give evidence concerning any dispute before arbitrator(s) appointed for any arbitration under the Contract; or
- (c) be liable for any claims for anything done or omitted in the discharge or purported discharge of the Member's functions, unless the act or omission is shown to have been in bad faith.

The Employer and the Contractor hereby and severally indemnify and hold the Member harmless against and from claims from which he/she is relieved from liability under the preceding paragraph.

## **6. Payment**

The Member shall be paid as follows, in the currency named in the Dispute Board Agreement:

- (a) a retainer fee per calendar month, which shall be considered as payment in full for:
  - i. being available on 28 days' notice for all site visits and hearings;
  - ii. becoming and remaining conversant with all project developments and maintaining relevant files;
  - iii. all office and overhead expenses including secretarial services, photocopying and office supplies incurred in connection with his duties; and
  - iv. all services performed hereunder except those referred to in subparagraphs (b) and (c) of this Clause.

The retainer fee shall be paid with effect from the last day of the calendar month in which the Dispute Board Agreement becomes effective; until the last day of the calendar month in which the Taking-Over Certificate is issued for the whole of the Works.

With effect from the first day of the calendar month following the month in which the Taking -Over Certificate is issued for the whole of the Works, the retainer fee shall be reduced by one third. This reduced fee shall be paid until the first day of the calendar month in which the Member resigns or the Dispute Board Agreement is otherwise terminated.

- (b) a daily fee shall be considered as payment in full for:
  - i. each day or part of a day up to a maximum of two days' travel time in each direction for the journey between the Member's home and the site, or another location of a meeting with the Other Members (if any);
  - ii. each working day on Site visits, hearings or preparing decisions; and
  - iii. each day spent reading submissions in preparation for a hearing.
- (c) all reasonable expenses including necessary travel expenses (air fare in less than first class, hotel and subsistence and other direct travel expenses) incurred in connection with the Member's duties, as well as the cost of telephone calls, courier charges, faxes and telexes: a receipt shall be required for each item in excess of five percent of the daily fee referred to in sub- paragraph (b) of this Clause;
- (d) any taxes properly levied in the Country on payments made to the Member (unless a national or permanent resident of the Country) under this Clause 6.

The daily fee shall be as specified in the Dispute Board Agreement. Unless it specifies otherwise, these fees shall remain fixed for the first 24 calendar months, and shall thereafter be adjusted by agreement between the Employer, the Contractor and the Member, at each anniversary of the date on which the Dispute Board Agreement became effective.

If the parties fail to agree on the retainer fee or the daily fee, the appointing entity or official named in the Contract Data shall determine the amount of the fees to be used.

The Member shall submit invoices for payment of the monthly retainer and air fares quarterly in advance. Invoices for other expenses and for daily fees shall be submitted following the conclusion of a site visit or hearing. All invoices shall be accompanied by a brief description of activities performed during the relevant period and shall be addressed to the Contractor.

The Contractor shall pay each of the Member's invoices in full within 56 calendar days after receiving each invoice and shall apply to the Employer (in the Statements under the Contract) for reimbursement of one-half of the amounts of these invoices. The Employer shall then pay the Contractor in accordance with the Contract.

If the Contractor fails to pay to the Member the amount to which he/she is entitled under the Dispute Board Agreement, the Employer shall pay the amount due to the Member and any other amount which may be required to maintain the operation of the DB; and without prejudice to the Employer's rights or remedies. In addition to all other rights arising from this default, the Employer shall be entitled to reimbursement of all sums paid in excess of one-half of these payments, plus all costs of recovering these sums and financing charges calculated at the rate specified in Sub-Clause 14.8 of the Conditions of Contract.

If the Member does not receive payment of the amount due within 70 days after submitting a valid invoice, the Member may (i) suspend his/her services (without notice) until the payment is received, and/or (ii) resign his/her appointment by giving notice under Clause 7.

## **7. Termination**

At any time: (i) the Employer and the Contractor may terminate the Dispute Board Agreement by giving 42 days' notice to the Member; or (ii) the Member may resign as provided for in Clause 2.

If the Member fails to comply with the Dispute Board Agreement, the Employer and the Contractor may, without prejudice to their other rights, terminate it by notice to the Member. The notice shall take effect when received by the Member.

If the Employer or the Contractor fails to comply with the Dispute Board Agreement, the Member may, without prejudice to his other rights, terminate it by notice to the Employer and the Contractor. The notice shall take effect when received by them both.

Any such notice, resignation and termination shall be final and binding on the Employer, the Contractor and the Member. However, a notice by the Employer or the Contractor, but not by both, shall be of no effect.

## **8. Default of the Member**

If the Member fails to comply with any of his obligations above, he shall not be entitled to any fees or expenses hereunder and shall, without prejudice to their other rights, reimburse each of the Employer and the Contractor for any fees and expenses received by the Member and the Other Member (if any), for proceeding or decisions (if any) of the



DB which are rendered void or ineffective by the said failure to comply.

If the Member fails to comply with any of his obligations above, he shall not be entitled to any fees or expenses hereunder from the date and to the extent of the non-compliance and shall, without prejudice to their other rights, reimburse each of the Employer and the Contractor for any fees and expenses already received by the Member, for proceedings or decisions (if any) of the DB which are rendered void or ineffective by the said failure to comply."

## **9. Disputes**

Any dispute or claim arising out of or in connection with this Dispute Board Agreement, or the breach, termination or invalidity thereof shall be finally settled by institutional arbitration. If no other arbitration institute is agreed, the arbitration shall be conducted under the Rules of Arbitration of the International Chamber of Commerce by one arbitrator appointed in accordance with these Rules of Arbitration".

**APPENDIX – B****PROCEDURAL RULES**

1. Unless otherwise agreed by the Employer and the Contractor, the DB shall visit the Site at intervals of not more than 140 days, including times of critical construction events, at the request of either the Employer or the Contractor. Unless otherwise agreed by the Employer, the Contractor and the DB, the period between consecutive visits shall not be less than 70 days, except as required to convene a hearing as described below.
2. The timing of and agenda for each Site visit shall be as agreed by the DB, the Employer and the Contractor, or in the absence of agreement, shall be decided by the DB. The purpose of Site visits is to enable the DB to become and remain acquainted with the progress of the Works and of any actual or potential problems or claims, and, as far as reasonable, to endeavour to prevent potential problems or claims from becoming disputes.
3. Site visits shall be attended by the Employer, the Contractor and the Engineer and shall be coordinated by the Employer in co-operation with the Contractor. The Employer shall ensure the provision of appropriate conference facilities and secretarial and copying services. At the conclusion of each Site visit and before leaving the site, the DB shall prepare a report on its activities during the visit and shall send copies to the Employer and the Contractor.
4. The Employer and the Contractor shall furnish to the DB one copy of all documents which the DB may request, including Contract documents, progress reports, variation instructions, certificates and other documents pertinent to the performance of the Contract. All communications between the DB and the Employer or the Contractor shall be copied to the other Party. If the DB comprises three persons, the Employer and the Contractor shall send copies of these requested documents and these communications to each of these persons.
5. If any dispute is referred to the DB in accordance with Clause 20.4 of the Conditions of Contract, the DB shall proceed in accordance with Clause 20.4 and these Rules. Subject to the time allowed to give notice of a decision and other relevant factors, the DB shall:
  - (a) act fairly and impartially as between the Employer and the Contractor, giving each of them a reasonable opportunity of putting his case and responding to the other's case, and
  - (b) adopt procedures suitable to the dispute, avoiding unnecessary delay or expense.
6. The DB may conduct a hearing on the dispute, in which event it will decide on the date and place for the hearing and may request that written documentation and arguments from the Employer and the Contractor be presented to it prior to or at the hearing.
7. Except as otherwise agreed in writing by the Employer and the Contractor, the DB shall have power to adopt an inquisitorial procedure, to refuse admission to hearings or audience at hearings to any persons other than representatives of the Employer, the Contractor and the Engineer, and to proceed in the absence of any party who the DB is satisfied received notice of the hearing; but shall have discretion to decide whether and to what extent this power may be exercised.
8. The Employer and the Contractor empower the DB, among other things, to:
  - (a) establish the procedure to be applied in deciding a dispute,
  - (b) decide upon the DB's own jurisdiction, and as to the scope of any dispute referred to it,

- (c) conduct any hearing as it thinks fit, not being bound by any rules or procedures other than those contained in the Contract and these Rules,
  - (d) take the initiative in ascertaining the facts and matters required for a decision,
  - (e) make use of its own specialist knowledge, if any,
  - (f) decide upon the payment of financing charges in accordance with the Contract,
  - (g) decide upon any provisional relief such as interim or conservatory measures, and
  - (h) open up, review and revise any certificate, decision, determination, instruction, opinion or valuation of the Engineer, relevant to the dispute.
9. The DB shall not express any opinions during any hearing concerning the merits of any arguments advanced by the Parties. Thereafter, the DB shall make and give its decision in accordance with Clause 20.4, or as otherwise agreed by the Employer and the Contractor in writing. If the DB comprises three persons:
- (a) it shall convene in private after a hearing, if any, in order to have discussions and prepare its decision;
  - (b) it shall endeavour to reach a unanimous decision: if this proves impossible, the applicable decision shall be made by a majority of the Members, who may require the minority Member to prepare a written report for submission to the Employer and the Contractor; and
  - (c) if a Member fails to attend a meeting or hearing, or to fulfil any required function, the other two Members may nevertheless proceed to make a decision, unless:
    - (i) either the Employer or the Contractor does not agree that they do so, or
    - (ii) the absent Member is the chairman and he/she instructs the other. Members not to make a decision.

**SECTION II**  
**SPECIAL CONDITIONS OF CONTRACT -**  
**PARTICULAR CONDITIONS**

**Notes on Particular Conditions**

1. The Bidder should note the following while quoting their cost.
2. The Particular Conditions (PC) complement the General Conditions (GC) to specify data and contractual requirements linked to the special circumstances of the country, the Employer, the Engineer, the sector, the overall project and the Works. Whenever there is a conflict, the provisions herein shall prevail over those in the GC.
3. Part A, Contract Data of the PC, includes data to complement the GC in a manner similar to the way in which the Bid Data Sheet complements the Instructions to Bidders.
4. Clause numbers in the PC correspond to those in the GC.

**PART A - CONTRACT DATA**

Sl.no	Conditions of Contract	Sub-Clause	Data
1.	Earnest Money Deposit	4.1	Rs. 1,45,00,000/-
2.	Time for Completion	1.1.3.3	16 Months from the date of commencement of work
3.	Date of commencement of the work	8.1	15 <sup>th</sup> day from the date of issue of Letter of Award.
4.	Contract Agreement	1.6	15 days after date of issue of Letter of Award
5.	Construction Program	8.3	The Contractor shall submit a detailed construction programme and get it's signed off from PMC/Employer within 14 days after receiving the Letter of Award
6.	Defects Liability Period	1.1.3.7	12 Months after 100% completion including completion of snag works and handing over of the entire works as certified by the PMC/EMPLOYER
7.	Performance Bank Guarantee	4.2	'The Performance Bank Guarantee will be in the form of a "Bank Guarantee" for 5% percent of the Accepted Contract Amount including GST.
8.	Liquidated damage	8.7	<p>Liquidated damages to be levied for non-achievement of milestones based on key dates.</p> <p>For 0–28 days delay: Rs 5,000/ day</p> <p>For 29–59 days delay: Rs 7,500/ day</p> <p>Above 60 days delay : Rs 10,000/ day</p> <p>Note: Slip of milestone days/Key Dates will attract penalty as detailed above with maximum limit of 5% the particular activity value.</p> <p>The period of delay shall be as opined by the Employer/ Engineering Consultant which is final and binding on the Contractor.</p> <p><b>Any delay in the project which is solely due to contractor, the payment to the Engineer / Engineering Consultant based on the man month fee for these delay months solely accountable on contractor account. TIDEL shall</b></p>



Sl.no	Conditions of Contract	Sub-Clause	Data
			<b>make payment deducting from Contractor's bill.</b>
9.	Mobilization Advance	14.2	<p>1. 10% of the Accepted Contract Amount is payable as Interest bearing Mobilisation Advance in three installments.</p> <p>a) First instalment of 25% of the Mobilisation Advance shall be paid after the contract is signed and the required bank guarantee in the specified format from Nationalised /Scheduled Bank is submitted</p> <p>b) After submission of proof of deployment of all key personnel such as Project Manager, Planning Manager, other key resources for the project, Completion of detailed work programme sign off, submission of Project HSE plan, Project QA/QC plan &amp; completion of worker accommodation required for the project, the second instalment of 25% shall be paid.</p> <p>c) Last instalment of 50% shall be paid on the complete mobilisation of all plant and Machinery (P&amp;M) at site as stated in Volume-1 which shall be substantiated by documentary proof within 30 days. Failure to do shall result in recovery to such amount.</p> <p>2. Rate of interest on Mobilisation Advance shall be 10.50% per Annum.</p> <p>3. For each installment of Mobilisation Advance Bank Guarantee, equivalent Bank guarantee of 1.10 times the advance requested is to be submitted from Nationalised /Scheduled Bank in India.</p>
10.	Repayment amortization rate of Mobilisation Advance	14.2(a)	20% of each Interim Payment Certificate (IPC)

Sl.no	Conditions of Contract	Sub-Clause	Data
11.	Retention Money	14.3	<p>TIDEL shall deduct from the Running Account Bills equivalent to 5% (Five Percent) of the contract value of each bill as retention money.</p> <ul style="list-style-type: none"> <li>• 50% of retention money shall be released upon completion &amp; handing over of all the works including completion of snag works as certified by Client/PMC.</li> <li>• Balance 50% of the retention money shall be released upon completion of Defects Liability Period.</li> </ul>
12.	<b>Minimum Amount of Interim Payment Certificates</b>	14.3	3% of the Accepted Contract Amount
13.	<b>Maximum total liability of the Contractor to the Employer</b>	17.6	100% of accepted contract amount.
14.	<b>Periods for submission of insurance:</b> a. evidence of insurance. b. Relevant policies	18.0	28 Days from Date of Issue of Letter of Award
15.	<b>Maximum amount of deductibles for insurance of the Employer's risks</b>	18.0	1% of the Contract amount for each occurrence.
16.	<b>Minimum amount of third party insurance</b>	18.0	Rs.15,00,000/- per occurrence.
17.	<b>Date by which the DB shall be appointed</b>	20(a)	Adjudicator shall be appointed by the competent authority within 28 days of receipt of such request by either party to the competent authority. Competent Authority is MD, TIDEL.
18.	<b>The DB shall be comprised of</b>	20(a)	One sole Member
19.	<b>Payment to the Adjudication</b>	20(a)	To be negotiated with the DB member as and when the need arises.
20.	<b>Place of Arbitration</b>	20(b)	Madurai
21.	<b>Language of Arbitration</b>	20(b)	English
22.	<b>Price Escalation</b>	-	Price escalation shall be applicable as per government norms.

**PART B****CONSTRUCTION SCHEDULE AND MILESTONES**

**CONSTRUCTION OF IT OFFICE BUILDING, GROUND FLOOR + 12 FLOORS + TERRACE, INCLUDING CIVIL CONSTRUCTION, INTERIOR FINISHING WORKS, MEP WORKS AND OTHER ALLIED DEVELOPMENT WORKS AT MATTUTHAVANI IN MADURAI.**

**(16 Months – 485 Days)-Key dates (KD's) / Milestones**

**Definitions:**

**Low Side Material: Lot 1 & Lot 2** - Cables, Conduits, Wires, Cable Trays, Floor Raceways, Ducts, Pipes, Valves and Accessories, Insulation, and all the Field Installation Equipment etc.

**Low Side Material: Lot 3 & Lot 4** - Switch & Sockets, Distribution Board, Earthing Equipment, Diffuser, Valves, Actuators, Detectors, Cameras, Speakers, Access Control Devices, Data & Telephone Passive Components, BMS Field Sensors etc.

**High Side Equipment: LOT 1-** HVAC (Chillers, Pumps, AHU's. Ventilation & Pressurization Fans), Electrical (HT Panels, Main LT Panels, UPS, Bus Duct, Transformer, DG, HSD, Floor Main LT Panels etc.), Fire Pumps and other Pumps, STP equipment, ELV (All Networking Active Components, Workstations, Display, FA Panels, PA System Rack Side Equipment's, Access Control Equipment, BMS DDC Panels etc.)

**High Side Equipment: LOT 2-** HVAC (AHU's, Cooling Tower), Electrical (Floor Main LT Panels, RMG Panel, Solar Equipment, Facade Lights, Lifts etc.), SWM equipment, ELV (All IBMS/ACS/CCTV/ICT Servers and other components, Head-end All IBMS & ELV System Software, Boom Barrier, X-Ray Scanner and, Swing Barrier etc.)

Key Date	Description	No. of days from date of Commencement	Milestone
<b>KD-A</b>	<b>Construction Works</b>		
<b>KD-A1</b>	<ul style="list-style-type: none"> <li>Deployment of Required Manpower with Project Manager at site. Submission of micro schedule for approval. Mobilization of equipment and accessories. Mobilization of key personnels at site and site office.</li> <li>Submission of all construction work method statement, QAP. ITP, Safety Document etc.</li> </ul>	<b>20 days</b>	<b>MILESTONE-1</b>
	<ul style="list-style-type: none"> <li>Earth work excavation up to foundation level</li> <li>Underground water tank &amp; pump room raft, retaining wall and roof slab concrete work</li> <li>Underground water tank external water proofing work</li> <li>Raft /footing foundation concrete work</li> <li>Column concrete up to ground floor level.</li> <li>Back filling up to ground level</li> <li>Grade slab concrete work</li> <li>Raising Columns from grade slab level to Ground floor roof slab concreting work.</li> <li>Submission and approval of Technical Data Sheet (TDS) and Documents for Chillers, Cooling tower, HVAC Pumps, HSD, A.H.U's, Ventilation fans, Solar, DG Set &amp; its accessories, Lifts, Transformers, busducts, HT/LT Panels, UPS/Battery, RMU Panel, all IBMS/ELV Equipment's, wiring, cabling, Conduits, Wires, Cable Trays, Ducts, Pipes, Plumbing works, Facade work, BMU, door, window, Rolling shutter etc.</li> <li>Submission and Approval of all MEP shop drawings with all equipment, schematic Layout, SLD, etc.</li> <li>Submission and approval of technical data sheet (TDS) and documents, STP Detailed Plant Layout, Detailed Equipment GA with sections, Piping layout, Hydraulic Flow Diagram, Single Line Diagram, P&amp;I Diagram, Structural Detailed design and calculations, structural and reinforcement drawings, etc.</li> <li>Samples submission and approvals.</li> <li>Placing order of Importing &amp; in land material of Major items namely Chillers, Cooling tower, HVAC Pumps, HSD, A.H.U's, Ventilation fans, Solar, DG Set &amp; its accessories, Lifts, Transformers, busducts, HT/LT Panels, UPS/Battery, RMU Panel, all IBMS Equipment's, wiring, cabling, Conduits, Wires, Cable Trays, Ducts, Pipes, Plumbing works, Facade work, BMU, door, window, Rolling shutter etc.</li> </ul>	<b>80 days</b>	
<b>KD-A2</b>	<ul style="list-style-type: none"> <li>Raising Column from ground floor slab to Third floor including slab casting in all floors.</li> </ul>	<b>160 Days</b>	<b>MILESTONE-2</b>

Key Date	Description	No. of days from date of Commencement	Milestone
	<ul style="list-style-type: none"> <li>Completion of masonry work, flooring, tiling work, Door, window &amp; all other finishing work, Plumbing works, toilet water proofing work etc. at Ground floor to Second Floor</li> <li>STP-Earth work excavation up to foundation level</li> <li>STP-Underground structure raft, retaining wall and roof slab concrete work</li> <li>STP- Water proofing work</li> <li>Miscellaneous utility buildings - Security Building, HSD yard, gas shed, SWM shed, compound wall, etc. – Excavation and foundation works</li> <li><b>Low Side Materials Lot 1: Supply</b> - From Ground Floor to Second Floor</li> <li><b>Low Side Material Lot 1: Erection</b>- From Ground Floor to Second Floor.</li> <li><b>Factory Inspection:</b> Engineering Consultant / Employer Joint Factory Inspection of Chillers, Cooling tower, HVAC Pumps, Fire Pumps and other Pumps, AHU, Ventilation fans, DG Set &amp; its accessories, Lifts, Transformers, busducts, HT/LT Panels, UPS, RMG Panel, etc. and approval</li> </ul>		
<b>KD-A3</b>	<ul style="list-style-type: none"> <li>Civil works completion of Miscellaneous utility buildings – Security Building, HSD yard, gas shed, SWM shed, compound wall, gate etc.</li> <li>Raising Column from Fourth floor to Sixth floor including slab casting in all floors.</li> <li>Completion of masonry work, flooring, tiling work, Door, window &amp; all other finishing work, Plumbing works, toilet water proofing work etc. at Third floor to Fifth Floor</li> <li>Installation of Sanitary &amp; CP fittings from ground floor to Fifth floor</li> <li><b>Low Side Materials Lot 2: Supply</b> - From Third Floor to Terrace Floor</li> <li><b>Low Side Materials Lot 3: Supply</b> - From Ground Floor to Second Floor</li> <li><b>Low Side Materials Lot 3: Erection</b> - From Ground Floor to Second Floor</li> <li><b>High side Equipment Lot 1 &amp; Lot 2: Supply / Delivery to site</b></li> <li>STP – Civil work completion</li> </ul>	<b>260 Days</b>	<b>MILESTONE-3</b>
<b>KD-A4</b>	<ul style="list-style-type: none"> <li>Raising Column from Seventh floor to Ninth floor including slab casting in all floors</li> <li>Completion of masonry work, flooring, tiling work, Door, window &amp; all other finishing work, Plumbing works, toilet water proofing work etc. at Sixth floor to Eighth Floor</li> <li><b>Low Side Materials Lot 2: Erection</b> - From Third Floor to Eighth Floor</li> <li><b>Low Side Materials Lot 4 : Supply</b> - From Third Floor to Terrace</li> </ul>	<b>370 Days</b>	<b>MILESTONE-4</b>

Key Date	Description	No. of days from date of Commencement	Milestone
	<ul style="list-style-type: none"> <li>• <b>Low Side Materials Lot 4: Erection</b> - From Third Floor to Eighth Floor</li> <li>• <b>High side Equipment's Lot 1 &amp; Lot 2: Supply / Delivery to site</b></li> <li>• <b>High side Equipment's Lot 1 &amp; 2: Erection</b> - From Ground Floor to Second floor</li> <li>• Installation of Sanitary &amp; CP fittings from Sixth floor to Eighth floor</li> <li>• External façade and glazing works from Ground floor to Sixth floor</li> </ul>		
<b>KD-A5</b>	<ul style="list-style-type: none"> <li>• Raising Column from 10th floor to Terrace floor including slab casting in all floors</li> <li>• Completion of masonry work, flooring, tiling work, Door, window &amp; all other finishing work, Plumbing works, toilet water proofing work etc. at Nineth floor to Terrace Floor</li> <li>• Installation of Sanitary &amp; CP fittings from Nineth floor to terrace floor</li> <li>• Terrace head room, water tank</li> <li>• BMU UNIT installation</li> <li>• Terrace waterproofing work</li> <li>• <b>Low Side Materials Lot 2: Erection</b> - From Nineth Floor to Terrace Floor.</li> <li>• <b>Low Side Materials Lot 4: Erection</b> - From Nineth Floor to Terrace Floor</li> <li>• <b>High side Equipment's Lot 1&amp; 2: Erection</b> - From Third Floor to Terrace Floor</li> <li>• External storm water drains, sewage network, water network, firefighting line</li> <li>• External façade and glazing works from Seventh floor to Terrace floor</li> <li>• External road and landscape works</li> </ul>	<b>440 days</b>	<b>MILESTONE-5</b>
<b>KD-A6</b>	<p><b>Pre commissioning work</b></p> <ul style="list-style-type: none"> <li>• External façade and glazing works water leakage testing</li> <li>• BMU Unit testing</li> <li>• Testing &amp; Commissioning of all MEP Works from Ground to Terrace Floor</li> <li>• Final site inspection walks through with Project Managers / Employer and Final Handing over of Project Works</li> <li>• Handing Over</li> </ul>	<b>485 days</b>	<b>MILESTONE-6</b>



**PART C****PRICE ADJUSTMENT CLAUSE****PRICE ADJUSTMENT**

Price variation clause is applicable for of this work as per G.O. Ms. No.101/Public Works (G2) Department/ Dated 10.06.2009.

Contract price shall be adjusted for increase or decrease in rates and price of labour, materials, fuels and lubricants in accordance with the following principles and procedures and as per formula given in the contract data:

- a) The price adjustment shall apply for the work done from the start date given in the contract data up to end of the initial intended completion date of extensions granted by the Employer and shall not apply to the work carried out beyond the stipulated time for reasons attributable to the contractor.
- b) The price adjustment shall be determined during each quarter from the formula given in the contract data.
- c) Following expressions and meanings are assigned to the work done during each quarter:

R = Total value of work done during the quarter. It would include the amount of secured advance for materials paid for (if any) during the quarter, less the amount of the secured advance recovered, during the quarter. It will exclude value for works executed under variations for which price adjustment will be worked separately based on the terms mutually agreed.

To the extent that full compensation for any rise or fall in costs to the contractor is not covered by the provisions of this or other clauses in the contract, the unit rates and prices included in the contract shall be deemed to include amounts to cover the contingency of such other rise or fall in costs.

**1. Calculation of price adjustment****1.1. Adjustment for Cement component**

Price adjustment for increase or decrease in the cost of cement procured by the contractor shall be paid in accordance with the following formula:

$$V_c = 0.85 \times P_c / 100 \times R \times (C_i - C_o) / C_o$$

$V_c$  = Increase or decrease in the cost of work during the quarter under consideration due to changes in rates of cement.

$C_o$  = The All-India Average Wholesale Price Index for Cement for the quarter preceding the date of opening of bids as published by the Ministry of Industrial Development, Government of India, New Delhi).

$C_i$  = The All India Average Wholesale price Index for cement for the quarter under consideration as published by RBI (Source-EA-Ministry of Industrial Development, Government of India, New Delhi).

$P_c$  = Percentage of cement component of the work.

### 1.2. Adjustment for Steel Component

Price adjustment for increase or decrease in the cost of steel procured by the contractor shall be paid in accordance with the following formula:

$$V_s = 0.85 \times P_s / 100 \times R \times (S_i - S_o) / S_o$$

$V_s$  = Increase or decrease in the cost of work during the quarter under consideration due changes in rates of steel.

$S_o$  = The All-India Average Wholesale Price Index for Steel (bars and rods) for the quarter preceding the date of opening of bids as published by the Ministry of Industrial Development, Government of India).

$S_1$  = The All-India Average Wholesale Price Index for steel (bars and rods) for the quarter under consideration as published by RBI (Source-EA Ministry of Industrial Development, Government of India, New Delhi).

$P_s$  = Percentage of steel component of the work.

Note: For the application of this Clause, the index of bars and rods has been chosen to represent the steel group.

### 1.3. Adjustment for POL (fuel and lubricant) component

Price adjustment for increase or decrease in the cost of POL (fuel and lubricant) shall be paid in accordance with the following formula:

$$V_f = 0.85 \times P_b / 100 \times R \times (f_i - F_o) / F_o$$

$V_f$  = Increase or decrease in the cost of work during the quarter under consideration due to changes in rates of fuel and lubricants.

$F_o$  = The Average official retail price of High-speed diesel (HSD) at the existing consumer pumps of IOC at Chennai on the day thirty days prior to the date of opening of bids.

$F_1$  = The average official retail price of HSD at the existing consumer pumps of IOC at Chennai for the 15th day of the middle calendar month of quarter under consideration.

$P_f$  = Percentage of fuel and lubricant component of the work.

Note: For the application of this Clause the price of High-Speed Diesel oil has been chosen to represent the fuel and lubricant group.

The following percentages will govern the price adjustment for the work under this contract.

**PRICE ESCALATION – ABSTRACT**

<b>Sl. No.</b>	<b>Component</b>	<b><i>Percentage of component of the work</i></b>
1	Cement	2.7 %
2	Steel	7.0 %
3	Bitumen	0 %
	POL	0 %
5	Labour	35 %
6	Plant and Machinery	10 %
7	Other material	45.3 %
	<b>TOTAL</b>	<b>100 %</b>

## **SECTION III**

### **EMPLOYER'S (OWNER'S) REQUIREMENTS**

## SCOPE OF WORKS

### 1. GENERAL

#### 1.1. Purpose of this Document

This document describes the General Scope of Services to be provided by the Contractor. TIDEL has endeavored to delineate the scope of the Services to be provided by Contractor in this volume. Such descriptions are not intended to be comprehensive. Contractor shall provide any services that are inferable as being necessary to accomplish the services set forth as part of the project.

#### 1.2. Objective:

The role of the contractor is to construct the building as per design and drawings issued by the Engineering consultant/TIDEL

#### 1.3. Standards and Codes of Practices

All activities related to documentation, supply, erection, testing & commissioning works shall be done as per the latest guidelines/circulars of National Building Code (NBC), latest version of relevant IS/BIS codes, PWD building practice, Standard Specifications for Roads & Bridges, IRC codes, special publications and to the laws and requirements of the relevant authorities and accepted Government procedures. The Contractor shall finalise these details in consultation with the Employer /stakeholders at the first instance before proceeding further.

### 2. SCOPE OF WORKS

The scope of work in brief is provided below, but the scope includes all other requirements stipulated in various parts/volumes of the contract document including appendices and annexure.

The payment shall be made as per items of works executed in the bill of quantities and rate  $\pm$  percentage above or below quoted by the contractor.

#### 2.1. Scope and Various Components of The Project

The proposed scope of work shall include Civil works, HVAC, Electrical HT/LT, Elevator, ELV System, Fire Protection, Plumbing, Structural Façade, Landscaping, STP and External Works for TIDEL Park Madurai.

##### a) Civil Works:

Civil works include but not limited to the following.

- Earthwork, anti-termite treatment, RCC works, masonry works, plastering works, flooring and finishing works, joineries etc.
- Site clearance, including tree felling if any, fencing, barricading for securing of the site areas and work areas.
- All works associated with construction of permanent works including temporary decking for pedestrians, traffic, construction works etc. wherever necessary in order to have minimal disruptions to general public and traffic flow.
- Site Survey to be done by the Contractor before starting the work.
- Site Barricading to be done by the Contractor
- Relocation, protection, Temporary support, diversion and reinstatement of utilities

to the satisfaction of the concerned utility authority.

- Other works as stated in Employers Requirements, Outline specifications and Employer's Drawings.
- Sufficient number of dewatering system and drainage pump arrangements needs to be provided at all worksites.
- Temporary ventilation, Water supply, sewage, air conditioning, Plumbing and lighting at site and ancillary structures.
- Water proofing of all underground structures and roof of above ground structures
- All civil works including substructure and superstructure, which shall be able to take fire tender load.
- Enabling works such as foundations for Cranes, Chiller plants, fire pumps, and other works related with site set up etc. to perform the execution of permanent works.
- Site development works including boundary wall, gates, pavers, roads, foot paths etc.

**b) HVAC Works:**

- The air conditioning system will be provided using chilled water tap off from central chilled water plant & further low side system starting from chilled water tap off point at each building to distribution in building's air handlers e.g. AHUs, FCUs, TFAs etc. The air distribution from these air handlers shall be done using insulated ducting & air outlets e.g. grilles, diffusers etc.
- Building will make arrangement for distribution of chilled water within building. The central plant will be monitored using chiller plant manager which will be integrated to Building Management System of the campus.
- LV rooms such as CCTV room, BMS rooms, fire alarm room & UPS room shall be provided with stand-alone split AC units with standby unit controlled by PLC to facilitate 24x7 air conditioning.
- Toilets shall be exhausted using each toilet ducts connected to vertical ducts in shaft which shall be connected to exhaust fan on terrace.

**c) Electrical Works:**

The scope shall include design, supply, testing at manufacturers works, packing, transportation, shipping, unloading at site, transportation to site, storage, transportation from stores to erection site, erection, site testing, commissioning, training, demonstration of performance guarantee tests of the power distribution system and handing over to Client including submission of hardcopy and soft copy of all as-built drawings, O&M manuals etc. required for successful operation.

Following are the scope of work involved in Electrical and associated works.

- Incoming power supply from local Electricity Board to RMG & RMG configuration , EB metering arrangements shall be decided by local Statutory Department officials (TANGEDCO) directions.
- HT panels for consumer use at near RMG & near Transformers -Indoor/Outdoor Type based on application.
- 3 Nos. 2500 KVA, Dry type Distribution Transformer with OLTC
- 3 Nos. 2250 KVA, 415 V LT Prime Rated Diesel Generating Set with supporting 2nos of 20 KL Underground High-speed Diesel tank Backup and all its associated works for Room acoustics enclosures.



- LT Panels with Switchgears Above 400 A shall be of type tested assembly (As per IEC 61439) and LT Panels with Switchgears below 400 A shall be of Non type tested assembly (IEC 60349). All main breaker status (ON/OFF/TRIP) and metering shall be interfaced with BMS system.
- LT Sandwich busduct, bus trunking system & rising mains along with end feed unit & tapoff box.
- LDB's, PDB's complete with MCCB & MCB. All external Lighting DBs shall be with timers.
- Structural Earthing system shall be considered as per IEC 62305.
- Earth pits can be conventional or Chemical (Maintenance free) as per the applicational requirements.
- Conventional structural lightning protection system as per IEC62305 is used for all the building.
- All HT / LT power cable shall be XLPE insulated with FRLS properties. Control cables and wires shall be with PVC insulated ZHFR. Fire survival cables for Fire mode loads
- HT and LT power, Fire survival cables, control cables and Paired cables with required numbers of glands, lugs, termination kits, jointing kits, etc as required for interconnection between various electrical equipment's along with cable markers
- Complete cable carrier system - cable trays, supports, brackets, clamps etc as well as GI conduits, floor and wall raceways, Hume pipes and all other installation materials as required for laying of power and control cables.
- HDGI Ladder type and perforated cable tray of approved colour shall be used. Raceways & conduits shall be used wherever required. PVC wall race ways shall be used wherever specified.
- High Efficiency LED lighting shall be used for the lighting system. Occupancy sensors / Motion sensors / Lighting Control with the help of DALI shall be used wherever required. All embedded conduits shall be Heavy duty PVC type (HMS) and exposed conduits shall be MS type.
- Yard Lighting for substation, STP & indoor Lighting for Electrical Room & Pump rooms.
- Modular switches and sockets shall be used all sockets shall be universal type with shutters for safety.
- Modular UPS of the required capacity with redundant racks shall be provided for Emergency lighting & Emergency power loads.
- Roof top solar PV system along with all necessary accessories shall be provided.
- EV Charging Sockets as per LEED & Tamil Nadu EV Policy requirements.
- Passenger lifts with MR and DCS system
- Fire Cum Service with MR
- Façade and Landscape light Fixtures wiring.
- SITC of Complete relay setting, relay coordination, fault analysis, discrimination report and coordination documentation with calculation for the Power Distribution System
- Electrical system related miscellaneous items namely, three phase welding receptacles, rubber mats, danger boards, first aid charts, first aid boxes, insulated hand gloves, shock treatment chart, etc.
- All the required approvals from the statutory department and related all the required coordination charges, professional charges, etc. shall be in the scope.
- Execution of electrical works shall be based on the final shop drawings prepared by contractor and approved by consultant. Its contractor responsibility to check the

interferences with other services before issuing the final shop drawing for review of Consultant.

- All equipment shall be suitable for smooth, efficient and trouble-free operation for power supply variations as mentioned herein below. The equipment shall be designed to give efficient and reliable performance even during various extreme atmosphere.
- All services necessary for the erection, testing and commissioning and all instruments/services required for carrying out performance testing of all items of the plant electrics covered under this specification shall be arranged by the BIDDER.
- Type test certificates for electrical equipment's like panels, etc. not less than 5 years shall be submitted for consultants' approval.
- Routine test shall be conducted for all equipment (100%) like panel, DB, cables, wires, UPS etc. during the final inspection.
- Providing and doing MS fabrication work as per the requirements.

#### **d) ELV System Works**

Work to be performed under this contract consists of supply, installation, testing, commissioning & warranty of below listed system & equipment in other section of this document

- Intelligent Addressable Fire Alarm system - FAS
- IP Based Public Address System - PAS
- IP CCTV Surveillance System – IP CCTV
- Security Access Control System - ACS
- Integrated Building Management System - IBMS
- Data Networking & Telecom system – ICT

#### **Intelligent Addressable Fire Alarm system - FAS:**

- The proposed Fire Alarm System shall comply with NBC-2016 requirements & NFPA-72 standards.
- Analogue Addressable intelligent Fire Detection & Alarm System with Integrated Digital Voice Communication System is proposed.
- Multi-Criteria Detectors are proposed throughout the building. Heat / Thermal Detectors are considered in Kitchen area. Special Application detectors like Duct detectors (AHU's Return air duct) / Hydrogen Detectors (Battery Room) / Gas Leakage detectors (Gas Bank) considered.
- Modules like Manual Call Station, Input Monitor Module, Output Control Relay Modules are considered as per the requirement of project based on the application.
- Aspiration Smoke Detection system considered in IBMS Server Room and the same to be integrated with Fire Detection System, Gas Suppression System & BMS.
- Fire Alarm Panel is to be located in Ground Floor Fire Command Room (FCC Room) as per the guidelines given in NBC.
- Graphical User Interface with workstation is located in FCC Room as per the guideline given by NBC for ease of operation.
- Fire Alarm System to be integrated with Public Address System, Access Control System, HVAC System, Lift / Escalator, BMS within the building level.

#### **Fire Signages & Fire Suppression system**

- Clean Agent based Gas Fire Suppression System: - Clean Agent system will be designed as per NFPA 2001:2018 and will be provided to critical room i.e. IBMS

server room and Ceiling mount portable Gas Suppression System will be provided in each Floor Hub Roo and TSP/ISP room.

- Fire Signages shall be provided as per NBC-2016.

**Public Address System:**

- The proposed Public Address System is complied with NBC-2016 requirements & EN-54 standards.
- Digital Public Address System is considered. The Main Equipment's like Multi-Zone Controller, Digital Amplifiers, Microphone Console shall be interfaced through communication cable.
- Field Speakers to be interfaced through 2 wire communication methodology
- Public Address System shall be interfaced with Fire Alarm System within the building level for ease of operation.

**Closed Circuit Television (CCTV):**

- CCTV is considered here for building Surveillance Purpose. IP CCTV System is considered with latest market trend technology as per the site requirement and building application.
- All Cameras are considered here are combination of 5MP resolution with latest CCTV Artificial Intelligence Algorithm to monitor the building in terms of security surveillance aspects.
- Cameras are considered in all the critical room like IBMS server room, FCC room and all hub rooms, passage, lift, staircase, utility rooms, electrical rooms, HVAC Rooms, Car / Bike Parking Areas, Building External Perimeter etc. and the cameras shall be connected through LAN Network. The power shall be driven from Network Highspeed Switches through Power over Ethernet (PoE).
- Layer 2 Network PoE Switches shall be placed in Floor wise HUB Room and the same shall be connected to L3-Core Switch with redundancy through OFC Backbone.
- The storage retention is considered here with 45 days with Server based with inbuilt storage arrange boxes. The details shall be referred from Technical specification.
- All the cameras shall have edge-based analytics and they shall be enabled at the time of commissioning as per the tender requirement. Server based Analytics shall be considered if camera does not have edge-based analytics.
- CCTV Control & Monitoring station is considered in FCC Room and the Storage Devices, Servers with redundancy are considered in IBMS Server Room.

**Security Access Control System:**

- Access Control System considered here to secure the places to avoid the unauthorized entry to the building.
- Smart-Card based Access Control System is considered for Utility Rooms, Electrical Rooms, UPS Room, TIDEL Offices, Entrance Control Equipment's, HVAC Rooms etc. within the building.
- Bio-metric based Access Control System is considered for Critical Rooms like HUB Room, TSP / ISP Room, IBMS Server Room within the building.
- Master IP Based Access Controller is considered in each floor and the field equipment's shall be connected to Reader module and the reader module shall be interfaced with Master Controller.
- The Access control System is proposed for throughout the building and the same shall be interfaced through LAN connection to connect the backbone.

- Electro Magnetic Lock is considered as per the Door closure and related accessories with Cables, Conduits, Cable tray etc considered.
- Access Control System Server with Redundancy is placed at IBMS Server Rooms and Operator Workstation is placed at FCC Room.
- Access Control System Software with multiple features like General Access Control / Attendance & Monitoring / Vehicular Access Control is considered.
- The proposed Access Control System shall be modular and scalable in case any other module to be added for future services enablement with limited to OEM availability.
- Perimeter entry & exit security considered by using Boom Barrier & Automatic Number Plate Recognition for Vehicular Movement and the Physical security shall be done through Baggage Scanning, Door Frame Metal Detector (DFMD) and Manual Movement shall be monitored through Swing Barriers at Ground floor Entrance Foyer.
- Swing Barriers is considered in Ground Floor Entrance Foyer and the same shall be controlled / interconnected with Access Control System. Minimum number of required Smart Card is considered for Access Control System operation at this tender.
- The Swing Barrier shall have inbuilt QR code reader for enabling the access to the visitors. The QR Code shall be generated from access control software and the same shall be sent through Push/E-mail/Printable format.

**Integrated Building Management System:**

- Integrated Building Management System (IBMS) is considered for this project as per the requirement which will enable the building rated LEED – Platinum requirement.
- The proposed BMS DDC Controllers shall have compatibility to connect directly with cloud server for ease of operation. In case any failure shall be happened in physical server, the BMS – DDC Controllers shall push / pull the data from the Cloud Server and the operator shall be monitored / control the Building Operation through Cloud BMS Software Graphical Station.
- The following Sub-systems are considered under IBMS to control & Monitoring.
- Control & Monitoring of HVAC Lower & Higher side Equipment's with Energy Conservation.
- Control & Monitoring of Ventilation & Pressurization Panels
- Tenant energy consumption and Billing System by using BTU Meters / Water Meter / Gas Meter / Energy Meters etc.
- Monitoring of Firefighting & PHE System
- Monitoring of Electrical Systems like HT / LT Panels, DG, Transformers, Energy Meters, UPS, Solar System, EV Charging Station etc.
- Monitoring of Low Voltage System like Fire Alarm System & Aspiration Smoke Detection System, Public Address System, CCTV & Access Control System, Gas Suppression System and Critical Room System like Water Leakage & Rodent Repellent System.
- All the above system shall be interfaced with DDC Controllers through Hard wired and Open Control Protocol like BACnet / IP, Modbus, M-Bus, LonWorks and KNX lighting Control Protocols etc.
- IBMS Server with Redundancy is considered in IBMS Server Room to install the IBMS Server Software and the Operator workstation with Client Software is considered in FCC Room for ease operation.

- Cloud Server shall be subscribed by TIDEL Park, and the Software installation shall be done by Successful Contractor. The cost of the software shall be included in the BMS Software itself.
- DDC Panels are considered in utility rooms as per the requirement and the same shall be interfaced with LAN Connectivity to connect within the building Backbone.
- All the required Field Sensors, accessories with cables, conduits and Cable trays are considered to complete as per project requirement.

**Data Networking & Telecom System (ICT):**

- Integrated Data Networking & Telecom System has been proposed to provide the high-speed internet, telecom services to entire building.
- The proposed ICT system shall be survived the common networking facility for Data Networking, Telecom works, CCTV, Access Control System, BMS Works etc.
- The networking topologies has been considered Layer-3 (L3) Core Switch (Fiber Link Switch) with N:N redundancy, Layer-2 (L2) PoE+ Switches with Copper Distribution and the same shall be connected with L3 switch through OFC backbone. However, the external networking shall be connected with industrial grade 8Port PoE+ Rugged Switches and the same shall be interlinked with above backbone through OFC.
- Passive Components like OFC Backbone, Copper Distribution is considered as per the Project requirement and its application.
- CAT6A Copper distribution is considered for all the nodes of Data Networking, Telecom works, CCTV, Access Control System and BMS Works. Also 25 years stability / warranty certification shall be provided by the OEM for all Passive cabling components from field to Switching side. The certificate shall be issued to the name of TIDEL Park, Madurai.
- IPABX System proposed for telecom functional. The proposed System shall have combinational Analog & IP Telephonic System as per the project requirement.
- Analog telephonic system shall be interfaced through Multi-Pair Telephone Cables from MDF to IPABX Machine and field to MDF shall be CAT6A cable.
- The scope of works limited to provide Router, Network Management System, Switching Part, Passive Components Part as per the detailed BoQ.

**e) Fire Protection Works:**

- Supply, Installation, Testing, Commissioning & handing over of Pump house which shall include pump sets with Electrical Panel, controller, cabling, piping, fittings, valves, and ancillary equipment as per technical specifications, schedule of quantities and drawings.
- Supply, Installation, Testing, Commissioning & handing over of Sprinkler system, Internal and external Hydrant system, Clean Agent Fire Suppression systems and Portable Fire Extinguishers shall be provided for all floors as per technical specifications, schedule of quantities and drawings.
- Excavation upto required depth and backfilling including compaction and carting away of excess soil for laying underground pipes.
- All supports for underground and above ground pipes shall be done by contractor.
- Making holes/openings in walls, providing sleeves and sealing them back to the satisfaction of Engineer
- Automatic pump starting system with all accessories, wiring and connections and pressure switches.
- Pressure gauges with syphon pipe shall be with half coupling tapping, isolation

- valves and piping, bleed, block valves etc complete.
- Test certificates, UL/FM/VDS approved documents, Operating & maintenance Manuals of all equipment's / fittings, Warranty/Guarantee certificate duly signed and certified by bidder.
- The design engineering for this package has been done as per National Building Codes of India (NBC) part IV guidelines 2016, Local Fire Authority requirements and schematic/ general layout drawings for fire pump house equipment, hydrant, sprinkler & fire extinguishers have been prepared by the Engineer. Contractor to get Fire NOC approval from statutory authorities, including taking out necessary number of prints of drawings, submission to accredited agency, coordinating site visits, making any minor modification in drawings for the purpose, etc.
- Supporting arrangements needed (indoor & outdoor) for the piping, valves and instrumentation, operating platforms / cross-overs etc in pump house & all work locations of site.
- Hume pipes to be provided wherever road crossings
- All anchor bolts, nuts, washers and inserts to be embedded in concrete for the equipment and piping.
- The flanges, companion flanges with nuts, bolts & gaskets for nozzles on fire water reservoir.
- Performing and submitting Hydraulic calculations in PIPENET Software shall be in the scope of contractor.
- Supply and application of painting shall be as per IS:5 for piping, fitting, valves, equipment, fire hose cabinets, structural steel and auxiliary steel for supports.
- RCC Sleepers / Thrust blocks / Anchor for underground pipe wherever required, shall be supplied and constructed
- Supporting arrangements needed for the piping, valves and instrumentation, operating platforms / cross-overs etc in pump house & all work locations of site

**f) Plumbing Works:**

**i) Domestic & Recycled Water Supply:**

- Domestic water will be supplied from Municipal waters and Recycled Treated water will be supplied from the STP to TIDEL Park building through two discrete pipelines.
- Design, Supply, Installation, Testing & commissioning of Potable/Domestic & Flushing transfer /booster Pumps capacity i.e., Numbers of Pumps, Flow & Head for Proposed Tidel Park building shall be in this scope of work.
- Proper protection of underground pipe with 100mm soft sand.
- All support for underground and above ground pipes shall be done by contractor.
- Making holes/openings in walls, providing sleeves, and sealing them back to the satisfaction of Engineer in Charge.
- Domestic water would be stored in UGT (post supply to the firefighting Static Water UGT) and transferred to the OHT by use of Transfer Pumps.
- The Recycled water will be connected to the UGT, and then pumped to OHT by use of Transfer Pumps.
- Domestic and Recycled Treated Water distribution by combination of Booster pumping system for Top 3 floors and remaining floors by gravity system.
- Chilled water based air-conditioning system is proposed for HVAC system, so there is a requirement of soft water. It shall be provided by Recycled water from STP.
- The Proposed material for water supply would be CPVC/UPVC.



**ii) Sewer Systems:**

- A Two pipe sewer system will be used for black water and grey water. The black water and grey water sewers will be separate within the building and will converge outside the building and connect to main sewer network.
- Sanitary drainage inside Toilet is in the form of underslung plumbing.
- Grease separator will be installed in wastewater from the kitchens.
- Piping material shall be UPVC / CI.

**iii) Rainwater Systems:**

- Rainwater falling on the building roofs will be collected by vertical rainwater pipes in shafts and stored in rainwater storage tank. Overflow from the storage tank shall be transferred to the ground level, The Storm water will be collected by gravity through catch basin, storm water manhole and shall be ultimately connected to the main storm-water drainage system.
- Piping material shall be uPVC.

**iv) Sanitary installations:**

- Sanitary installations would be in line with the LEED Platinum guidelines with low or restricted flow fixtures.

**g) External Infrastructure Works:****i) Site Grading:**

The proposed site grading work shall ensure that the plot remains elevated above the current level of Melur road, so that there is ingress of rain water from Melur road into the plot.

Following are minimum works that shall form the brief scope of works of this contract but not limited to.

- To provide leveling work (cutting and filling) of site to match the proposed site levels.
- To provide suitable access from main road to the plot and functional core area.
- To provide immediate diversion of water away from buildings and off the site.
- To avoid concentrating runoff into neighboring properties where erosion or other damage may be caused.
- To maintain gravity flow for entire storm water drainage

Road Level inside plot boundary is maintained in such a way that it is always lower than the adjoining ground level so that storm water flows from the ground to the storm drain provided along the roadside.

**ii) Road Work:**

The present scope of work for the project include the construction of Driveway for circulation inside the project area and construction of the Parking facility.

The Road scope of work for the project includes the following items :-

- Earth Work, Cutting & Filling
- Setting Out, Centre Line demarcation, Boundary/ ROW demarcation as per approved layout plan
- Procurement of materials as approved by the Engineer
- Construction of Subgrade
- Construction of Sub-base & Base layers as per design
- Construction of surface layers. Material as per landscape design
- Compaction of the bedding sand & Interlocking block pavement
- Initial Maintenance of the Block pavement
- Provision of kerbs and edge restrain blocks.
- Road Marking, Road Signages & furniture
- Temporary diversion roads if necessary
- Safety barricades
- Safety during construction at project site
- Shifting of utilities if any shall be as per directions of Engineer-in-charge

### iii) Storm Water Drains

- IMD Rainfall data is used to estimate IDF curve and depth of rainfall for various return periods
- DEM data is used for delineating catchment area.
- 1 in 5-year return period considered as per for design of Storm water drainage system
- The minimum and maximum velocity is considered 0.6 m/sec and 3 m/sec.
- Box Drain is proposed for storm water drainage as economical option.
- The entire catchment runoff drains into main drain along Melur main road through surface flow.
- Rainwater harvesting shall be done by storage of roof top rainwater. The stored rainwater shall be reused after providing proper treatment.

### iv) Sewerage Network

Domestic sewage from building shall be gravitated to STP through sewer network. Domestic sewage shall be treated in STP and treated water shall be reused for flushing, irrigation and HVAC requirements.

### v) Domestic Water Distribution System

The tapping from municipal water line shall be considered for TIDEL Park Building demand. This water will be carried through buried Ductile Iron (DI) pipeline to the Underground storage tanks. From the storage tanks, water will be pumped to the overhead tank.

Following are minimum works that shall form the brief scope of works of this contract but not limited to:

- Supply, installation, testing and commissioning of proposed buried pipeline from Municipal water line to UG tank.
- supply, installation, testing and commissioning of valves with chamber and Flowmeters to measure flow.
- Provision of Instrumentation and control (SCADA) system for monitoring and operations.

**vi) Recycled Water Distribution System**

Water demand for flushing, Irrigation / Gardening and HVAC Makeup water for the TIDEL Park shall be met with the recycled water from STP. Recycled water from STP treated water tank shall be conveyed to UG tanks through distribution network and further supply through pumps to various locations for intended uses.

- Flushing water network using HDPE pipes of various diameters.
- HVAC water network using HDPE pipes. RO treated sewage water and fresh water from municipal line will be used for HVAC water purposes.
- Irrigation water network using HDPE pipes.

The Contractor shall provide minimum following works under the scope of recycled water distribution systems but not limited to:

- Supply, installation, testing and commissioning of separate distribution network systems for Irrigation water distribution from UG tanks to surrounding green areas.
- To provide Pumps, valves, and flow meters to distribution line.
- To provide SCADA system for monitoring, record, and control work

**h) Sewage Treatment Plant (STP)**

The scope of STP(s) includes but is not limited to the design, detailed engineering, construction, manufacture, procurement and supply of all materials including hydraulic, process, equipment design, and preparation of detailed layout working drawings for process layout plan, general arrangement drawings, civil, electrical, mechanical, instrumentation system, automation diagrams, data sheets of equipments and cable schedules, preparation of design report manufacture and testing at places of manufacture, painting, packing, transport, delivery, supply, storage, erection, building-in, setting work, commissioning, testing, painting, lining and finishing after erection of all plant required for the Sewage Treatment Work, including pipelines, pumps, pumping installations, machinery apparatus, flow meters at various installations, on line monitoring Equipments for monitoring process parameters, whole plant computer based automation system, pipe work, lifting, handling and ventilation equipment, electrical equipment instrumentation, control, earthing system, materials, articles, fittings and accessories, ancillaries, ancillary works, enabling works of all kind and nature required for installations of the highest possible operative standards and for compliance with the standards prescribed in the specifications following successful completion of the commissioning and issuance of the Taking-Over Certificate for the Works. It broadly comprises the following works:

- Process and Hydraulic Design of STP (250 KLD) and CTBD effluent treatment plant (70 KLD) with recycle system (Reverse osmosis system-200 KLD for recycling of water for HVAC system) as per design basis.
- Preparation of GA Drawings and Structural Drawings (GFC) as per documents and drawing submission & distribution schedule.
- Site Layout, Unit Process/Equipment/Facility/Building layouts, Hydraulic Profile, Process Flow Diagram, Piping and Instrumentation Diagram (P&ID).
- The GAD (General arrangement drawing) should include all the units for the design requirement of capacity as mentioned in Bid documents. The placement/layout of units (for STP capacity requirement as well as ultimate requirement) should be

clearly shown in the available plot area.

- Design, Construction and Commissioning of STP system and Bypass Lines
- Submission of Detailed Engineering Designs, Drawings, Process & hydraulic Calculations, Mass Balance Calculations, and Data Sheets as per bid requirements.
- Procurement, Supply and Installation, Erection of all Mechanical, Electrical, Instrumentation, SCADA Equipment.
- Execution of all Civil, Mechanical, Electrical, Instrumentation, SCADA Works at Site including Construction, Erection & Testing.
- Transportation and Disposal of Sludge
- Design, construction, and commissioning of pipelines, conduits for the disposal of plant effluent as directed by engineer in charge.
- Plant Testing, Commissioning, Stabilization, Demonstration of Performance Guarantee. This item shall include proper maintenance according to manufacturers' instructions of entire plant and its components during any inactive period that may be required if influent wastewater is not available at the time of STP completion.
- Submission of Commissioning Procedure
- Submission of Operation and Maintenance Manuals
- Construction and equipping of analytical laboratory for routine testing of raw and treated sewage quality on a day to day basis and control of process parameters; Instituting Quality Assurance and Quality Control procedures during construction and commissioning period upto handing over the plant to employer.
- Providing Training Services to Employer's Personnel
- Preparation and Submission of As-Built drawings for all Civil, Mechanical, Electrical, Instrumentation and SCADA Works

**i) Solid Waste Management System (SWM)**

Following shall be the scope of work for the successful bidder:

- The entire garbage shall be collected from all floors and transported to the waste treatment facility.
- Construct Solid Waste Treatment Facility of capacity 2250 Kg/day using Mechanized composting (In-vessel composting) technology for Biodegradable waste in accordance with provisions and in conforms to the construction requirements and O&M requirements. The system is to be designed as per the Municipal Solid Waste (Management and Handling) Rules 2000.
- Setting up the In vessel composting treatment plant of 1000 kg/day capacity (including phase 1 & 2)
- Complete solution shall be provided by the vendor based on the concept of Integrated Solid Waste Management principles highlighted in Solid Waste Management (MSW) Rule, 2016 manual, starting from segregation to conversion to Compost and final disposal of all by-products and remaining materials in an environment friendly manner.
- Coordination, Collection, and transportation of waste is not in the scope of this work.
- Vendor to do post Segregation of the preliminary source segregated Waste.
- Submission of Operation and Maintenance Manuals
- Providing Training Services to Employer's Personnel
- Shredding and Dewatering of waste.
- The contractor shall ensure that the compost generated at the plant shall meet

FCO (Fertilizer Control Order) norms as per the Fertilizer (Control) Order, 1985.

- Requirement for commissioning of plant: The contractor shall submit the details of water and electricity requirements for setting up the plant.

**j) Green Building Related works (For LEED Platinum certification)**

The proposed scope of work shall include LEED Platinum Rating Certification. No separate payment shall be made to Contractor to follow these guidelines. All the costs and expenses towards the same shall be deemed to have been included in the quoted rates for the project. Contractor to prepare and submit all documentation and comply all the requirements and follow all the procedures as per the rating requirement.

All the costs and expenses towards the green building certification shall be deemed to have been included in the quoted rates for the project.

The implementation of the strategies at site should be as per LEED guidelines.

Contractor shall share all the data/photographs/certificate/test reports required for LEED certification.

The contractor shall support the project till the Award of LEED Platinum rating for the project.

## **2.2. Shop Drawings**

Shop drawings to be provided for installation of Mechanical & Electrical services like Electrical, Fire Protection System, Air Conditioning & Mechanical Ventilation, Integrated Building Management System etc..

## **2.3. Quality Control & Quality Assurance Plan**

### **Quality Assurance Plan**

QAP shall be submitted to Employer's/stakeholders' for approval. The QAP shall identify the personnel, procedures, instructions, records and forms necessary to implement the plan with the following minimum requirements:

- i. Certification process of drawings and documents for issue;
- ii. Organizational structure;
- iii. Design control - including study and design input/analysis;
- iv. Checking of documents;
- v. Document control;
- vi. Internal quality audit; and
- vii. Corrective action.
- viii. Contractor shall provide samples, technical brochures, details etc. to Employer/stakeholder for approval of make, brand, colour, shade etc. at his own cost before placing orders.

### **Quality Assurance Plan**

Quality Audits and monitoring of the Contractor's QAP will be conducted by Employer at intervals commensurate with the Contractor's Activities.

## **2.4. As-Built Drawings submission**

Submitting completion report and As built drawings for issuance of completion/ occupancy certificate by statutory authorities, wherever required

## **2.5. Post Construction Stage**

- i) Taking Completion/ Occupancy Certificates from local/ statutory bodies (if required).
- ii) Taking No Objection Certificates from Fire/ Forest/Environment departments etc. (as required as per rules of the area).
- iii) Assist the client in getting water, sewage/sewerage, electricity connection, permission or NOC, if required, from railways, MTC, COC etc. which will ensure occupancy of the buildings and services.
- iv) Assisting Client in any of the activities which are related with approval and occupancy of the buildings and services etc.

## **2.6. Post Construction Stage**

The Contractor shall execute the work as per approved drawings, BOQ and as per specifications as set out in the Technical Specifications.

## **3) DUTIES AND RESPONSIBILITIES OF THE CONTRACTOR**

- a. The Contractor shall carry out the Services in accordance with best industry practices, in compliance with the provisions of the Agreement.
- b. The Contractor as a professional and experienced Contractor, shall accept full responsibility for the correctness and technical merit of the services performed.
- c. The broad scope of services is classified in terms of activities. All the incidental services related with pre-construction phase, construction and post construction phase including additional related details, statutory approvals, obtaining completion/ occupancy certificates etc. shall be deemed to be included in the scope of services of Contractor. No extra payment shall be made for such incidental services.
- d. The Contractor shall provide at his cost everything necessary for the proper execution of the Works according to the intent and meaning of the Bill of Quantities, Specifications and Drawings taken together, whether the same may or may not be particularly shown or described therein provided that the same can reasonably be inferred there from, and if the Contractor finds any discrepancy in the Drawings or between the Bill of Quantities, Specifications and Drawings, he shall immediately and in writing refer the same to the Engineer who shall decide which is to be followed.
- e. The Contractor is bound to carry out any items of work necessary for the completion of the job even though such items are not included in the quantities and rates. The Engineer will issue instructions in respect of such additional items and their quantities in writing with the prior consent in writing of the Employer.
- f. The Contractor must co-operate with the other Contractors appointed by the Employer so that the Work shall proceed smoothly to the satisfaction of the PMC / Employer.
- g. The Contractor must bear in mind that all the Work shall be carried out in the most sound, substantial and workmanlike manner and strictly in accordance with the Specifications as given in these documents supplemented by latest versions of relevant provisions of the Indian standard specifications, the code of practice; etc., both as regards to materials and workmanship prior to bidding. All work shall also be carried out in compliance of the requirements of the local public authorities and to the requirements / satisfaction / direction of the PMC/Employer and no deviation on any account will be permitted. The Contractor shall have to use Materials of the



makes/manufacturers as shall be Approved by PMC/Employer. The Contractor shall also conform exactly, fully and faithfully to the designs, drawings and instructions in writing relating to the work.

#### **4) PROJECT TEAM OF THE CONTRACTOR**

- i. The Contractor shall be required to form a multi-disciplinary team for this assignment. The Contractor's Team shall be manned by an adequate number of experts with relevant experience in the execution of similar projects.
- ii. A list of personnel to be provided by the Contractor along with suggested staff deployment schedule submitted to the Employer and approved during pre-construction phase.

#### **5) COORDINATION MEETINGS**

The following coordination meetings shall be held for effective implementation of the project:

- a. There shall be regular fortnightly meetings wherein representatives of the Client will review the progress and other aspects of the work. These meetings shall be held in either the Client's or the Contractor's office. The Contractor shall record the minutes of such meetings and maintain them as records for future reference after obtaining the Client's approval to the same
- b. A monthly progress report and other reports shall be submitted to the Client, starting from the Effective Date of the Contractor's contract, giving the status of individual activities within their organization such as planning, procurement, and execution along with manpower engaged, sub-Contractors engaged and their performance and other relevant details.
- c. The stakeholders are TIDEL Park Limited, various departments of TN Govt.etc.

#### **6) INTERACTION WITH THE EMPLOYER/STAKEHOLDERS**

- (i) During entire period of services, the Contractor shall interact continuously with the TIDEL and provide any clarification as regards methods being followed and carryout modification as suggested by the employer/stakeholders. A programme of various activities shall be provided to the Client and prior intimation shall be given to the Client regarding start of key activities such as survey, sub-soil exploration etc., so that inspections by the Client could be arranged in time.
- (ii) The Client and other Government officers may visit the site at any time, individually or collectively to acquaint themselves with the field investigation and survey works. Contractor representative to be present to clarify.

#### **7) REVIEW COMMITTEE TO MONITOR THE CONTRACTOR'S WORKS**

A Review Committee comprising of senior authorities/ officers from TIDEL shall review the progress of the work and approve the Contractor's payment.

The Review Committee and the employer's representative will review the reports submitted by the Contractor and will give suggestions and modifications, if any, within days of receipt. The same may be incorporated in the final reports or concerned documents. The Review Committee may also hold meetings with the Contractor as necessary to discuss reports submitted and review the progress.

**8) DEFICIENCIES OF SERVICES**

- (i) Deficiencies on part of the Contractor may attract penalty provisions in the form of fines, up to a maximum amount of 5% of the Contract Price and/or termination by the Client. Deficiencies may include:
  - (a) Not performing the Services as per the Contract for Contractor's Services and undue delay in submission of reports during the Pre- construction phase and Procurement phase and the Supervision phase
  - (b) Not keeping proper records regarding quality control, inspection, rejection/rectification of work, etc.
  - (c) Permitting sub-contracting of any works without authorization by the Client.

**EMPLOYER'S REQUIREMENTS****GENERAL****1. GENERAL REQUIREMENTS**

- 1) TIDEL / Engineering Consultant shall issue GFC drawings and contractor shall prepare bar bending schedules, fabrication and shop drawings, construction erection sequences, finishes material list with accompanying specification, and the like.
- 2) The Construction of the Works shall be strictly in accordance with these GFC Drawings.
- 3) The Contractor shall finalize details of the proposed method of construction and submit such finalized details to the TIDEL for a Notice.
- 4) Hard copies of the As-Built Drawings, endorsed by the Contractor, shall be submitted to the TIDEL for a Notice of No Objection.
- 5) The Contractor shall be responsible for coordinating his own technical, programming and construction activities and for coordinating these with the design, technical, programming and construction activities.

**2. SAFETY AND SECURITY**

The objective is to minimize the potential impact on passengers and minimize dependence on technology and equipment when formulating security and safety plans for each facility. Issues may include, the following;

- a) Appropriate features to support life, safety and security strategy.
- b) Conformance with appropriate fire and life safety codes

**3. STANDARDS**

- 1) Equipment, materials and systems shall be designed, manufactured and tested in accordance with the latest issue of National codes and standards.
- 2) Reference to standards or to materials and equipment of a particular manufacturer shall be regarded as followed by the words "or equivalent". The Contractor may propose alternative standard materials, or equipment that shall be equal to or better deviations from the specified standards, or desires to use materials or equipment not covered by the specified standards, the Contractor shall apply for a Notice from the Employer's Representative. The Contractor shall state the exact nature of the change, the reason for making the change and relevant specifications of the materials and equipment in the English language. The decision of the Employer's Representative in the matter of quality will be final.

**4. CONTRACTOR'S SUPERINTENDENCE**

- 1) The Contractor shall submit a Staff Organization Plan to the Employer's Representative. This plan shall be updated and resubmitted whenever there are changes to the staff. The plan shall show the management structure and state clearly the duties, responsibilities and authority of each staff member.
- 2) The Project Manager and his site team shall have experience and qualifications appropriate to the type and magnitude of the Works. Full details shall be submitted of the qualifications and experience of all proposed staff to the Employer's Representative for his Notice.

**5. CHECKING OF THE CONTRACTOR'S TEMPORARY WORKS DESIGN**

The Contractor shall, prior to commencing the construction of the Temporary Works, submit a certificate to the Employer's Representative, 'Design Certificate' signed by the Contractors Designer, certifying that the Temporary Works have been properly and safely designed and checked, and that the Contractor has checked the effect of the Temporary Works on the Permanent Works and has found this to be satisfactory. All temporary works to be proof checked by third party designer.

**5.1. Barricades and Sign boards**

- i. The Contractor shall erect barricades with gates around his areas of operations to prevent entry by unauthorized persons to his Works and/or Site Areas and necessary identity cards /permits should be issued to all of his workers and staff by the Contractor. The Contractor shall submit a proposal for barricades/gates around the complete perimeter of all Works areas for which the Employer's Representative shall give a Notice. Painting of the barricades shall be carried out to the design and colors as directed by the Employer's Representative and the Contractor shall carry out re-painting of the entire barricades on an annual basis or sooner as required by the Employer's Representative.
- ii. No work shall commence in any Works Area until the Employer's Representative has issued a Notice signifying that he is satisfied that the barricades installed by the Contractor are sufficient to prevent, within reason, unauthorized entry. Project signboards shall be erected not more than four (4) weeks, or such other period as the Employer's Representative has given his Notice, after the date for commencement of the Works.
- iii. The types, sizes and locations of project signboards shall be agreed with the Employer's Representative before manufacture and erection. Other advertising signs shall not be erected on the Site.
- iv. A Notice of No Objection from the Employer's Representative shall be obtained before hoardings, fences, gates or signs are removed. Hoardings, fences, gates and signs which are to be left in position after the completion of the Works shall be repaired and repainted as instructed by the Employer's Representative.
- v. Hoardings, barricades, gates and signs shall be maintained in clean and good order by the Contractor until the completion of the Works, whether such hoardings, fences, gates and signs have been installed by the Contractor or by others and ownership transferred to the Contractor during the period of the Works. All the fencing, hoardings, gates and signs etc. shall be mopped a minimum of once a week and thoroughly washed once a month.
- vi. All hoardings, barricades, gates and signs installed by the Contractor shall be removed by the Contractor upon the completion of the Works, unless otherwise directed by the

Employer's Representative.

- vii. Hoarding/ barricades can be reused after removing from one place to other locations / sites provided they are in good condition and a Notice is issued by the Employer's Representative.
- viii. Damaged/worn-out barricades /hoardings shall be replaced by the Contractor within 24 hours. The Employer's Representative 's decision regarding need for replacement shall be final and binding.

## **6. OTHER SAFETY MEASURES**

- 1) The Contractor shall take all reasonable precautions and select appropriate tools, equipment and installation methods to avoid causing a nuisance arising from his operations and shall minimize inconvenience to the public.
- 2) The Contractor shall prevent dust from rising as a result of his activities and shall take all necessary dust control and suppression measures.
- 3) All Contractor's Equipment used on the Contract shall be fitted with a means of suppressing radio and television interference and shall be operated and maintained in such manner so as to minimize the emission of smoke and obnoxious fumes.
- 4) The Contractor shall be responsible for the security of the Site at all times during the term of this Contract. The Contractor shall control all entry and exit to and from the Site for his personnel, personnel from the Employer, Employer's Representative, Interfacing Contractors, Sub-contractors and suppliers, by pedestrians and for all vehicles. All of the Contractor's personnel shall be required to carry an identity/security card or pass which provides a positive photo identification and they shall be required to show the pass when entering or leaving the Site. This shall apply to all personnel on the Site including, but not limited to, the Contractor's staff, all Interfacing Contractors, Sub-contractors staff, Suppliers, Consultants, etc. and the staff of the Employer and Employer's Representative. Provision shall be made for issue of visitors' passes for other personnel authorized to enter the Site as visitors. Visitors on Site shall be escorted by appropriate Site based personnel at all times.
- 5) The Contractor shall be deemed to have made allowance in his price and programme for the impact on the Works as a result of any delay due to the provision of access to, and through the site generally, for Interfacing Contractors, relocation of temporary works, provision of security, lighting, signage, barriers, track work crossings, complying with all government and local authority regulations, etc...

## **7. CARE OF THE WORKS**

- 1) Unless otherwise permitted by the Employer's Representative all work shall be carried out in dry conditions.
- 2) The Works, including materials for use in the Works, shall be protected from damage due to water. Water on the Site and water entering the Site shall be promptly removed by temporary drainage or pumping systems or by other methods capable of keeping the Works free of water. Silt and debris shall be removed by traps before the water is discharged and shall be disposed of at a location or locations to which the Employer's Representative has given Notice.
- 3) The discharge points of the temporary systems shall be as per the Notice of the Employer's Representative. The Contractor shall make all arrangements with and

obtain the necessary approval from the relevant authorities for discharging water to drains, watercourses, etc. The relevant work shall not commence until the approved arrangements for disposal of the water have been implemented.

- 4) The methods used for keeping the Works free from water shall be such that settlement of, or damage to, new and existing structures does not occur.
- 5) Measures shall be taken to prevent settlement, damage, flotation, etc. to new and existing structures.
- 6) The Contractor shall ensure that all technology, equipment tools and tackles used to perform and deliver the Services are not obsolete and is kept in good working order at all times.
- 7) From the commencement to the certified completion of the whole of Works, the Contractor shall take full responsibility for the care thereof and of all Temporary Works and in case any damage, loss or injury shall happen to the Works or to any part thereof or to any Temporary Works from any cause whatsoever. The Contractor shall at his own cost repair and make good the same so that on completion, the Works shall be in good order and condition and in conformity to every respect with the requirements of the Contract and the PMC's/Employer's instructions. The Contractor shall indemnify Employer from all risks on this account.

## **8. PROTECTION OF THE WORKS FROM WEATHER**

- 1) Work shall not be carried out in weather conditions that may adversely affect the Works unless proper protection is provided to the satisfaction of the Employer's Representative.
- 2) Permanent Works, including materials for such Works, shall be protected from exposure to all weather conditions that may adversely affect such Permanent Works or materials.
- 3) During construction of the Works storm restraint systems shall be provided to ongoing construction works, where appropriate. These systems shall ensure the security of the partially completed and ongoing stages of construction in all weather conditions. Such storm restraint systems shall be installed as soon as practicable and shall be compatible with the right of way, or other access around or throughout the Site.
- 4) The Contractor shall, at all times program and order progress of the Works and make all protective arrangements such that the Works can be made safe in the event of storms.
- 5) The finished works shall be protected from any damage that could arise from any activities on the adjacent site/works.

## **9. DAMAGE AND INTERFERENCE**

- 1) Work shall be carried out in such a manner that there is no damage to or interference with:
  - (a) Watercourses or drainage systems;
  - (b) utilities
  - (c) structures (including foundations), roads, including street furniture, or other properties;



- (d) public or private vehicular or pedestrian access;
  - (e) monuments, trees, graves or burial grounds other than to the extent that is necessary for them to be removed or diverted to permit the execution of the Works, as approved by statutory authorities, etc...
  - (f) Heritage structures shall not be damaged or disfigured on any account. The Contractor shall inform the Employer's Representative as soon as practicable of any items which are not stated in the Contract to be removed or diverted but which the Contractor considers need to be removed or diverted to enable the Works to be carried out. Such items shall not be removed or diverted until a Notice from the Employer's Representative for such removal or diversion has been obtained.
- 2) Items which are damaged or interfered with as a result of the Works and items which are removed to enable work to be carried out shall be reinstated to the satisfaction of the Employer's Representative and to the same or better condition as existed before the work started.

### **9.1 Utilities**

Any claims by Utility Agencies due to damage of utilities by the Contractor shall be borne by the Contractor.

### **9.2 Structures, Roads and Other Properties**

The Contractor shall immediately inform the Employer's Representative of any damage to structures, roads or other properties at handover of the site(s) or during the Contract duration.

### **9.3 Access**

Alternative access shall be provided to all premises if interference with the existing access, public or private, is necessary to enable the Contractor's Works to be carried out. The arrangements for the alternative access shall be as agreed by the Employer's Representative and any concerned agency or building management. Unless agreed otherwise, the permanent access shall be reinstated as soon as practicable after the work is complete and the alternative access shall be removed immediately when it is no longer required, and the ground surfaces reinstated to the satisfaction of the Employer's Representative. Proper signage and guidance shall be provided for the traffic / users regarding diversions.

### **9.4 Trees**

The Contractor is not permitted to cut or fell any trees without first obtaining approval from the appropriate authorities and then obtaining a Notice from the Employer's Representative. The Contractor shall identify all trees that require cutting or felling and make applications to the appropriate authorities and the Employer's Representative for the necessary works at least 6 months in advance of the required date for the cutting or felling works.

### **9.5 Removal of Graves and Other Obstructions**

If any graves and other obstructions are required to be removed in order to execute the Works and such removal has not already been arranged for, the Contractor shall draw the Employer's Representative's attention to them in good time to allow all necessary arrangements and authorizations for such removal, and the Contractor shall not remove them without first obtaining approval from the appropriate authorities and then obtaining a Notice from the Employer's Representative.

**9.6 Protection of the Adjacent Structures and Works**

The Contractor shall take all necessary precautions to protect adjacent buildings and structures, and works being carried out by others adjacent to and within the Site, from the effects of vibrations, undermining and any other earth movements or the diversion of water flow arising from its work.

**9.7 Pre-Construction Surveys of Adjacent Buildings and Structures**

Prior to commencing any work within the 50m zone of influence of the buildings and structures, the Contractor shall complete a pre-construction survey to identify and record any existing defects in the building structure and fabric. A separate pre-construction survey report shall be prepared for each building/structure, in a format given a Notice by the Employer's Representative. The report shall include sufficient key plans, sketches and photographs to enable easy location of existing defects and comparison with possible future ones. Two coloured copies of all of the pre-construction survey reports shall be provided to the Employer's Representative, and a further copy of the appropriate pre-construction survey report shall be issued to the building/structure owner for their information and a signed receipt form/letter acknowledging the owners receipt of such shall be retained by the Contractor.

**10. WORK ON ROADS****10.1 Traffic Management Plan**

The Contractor shall develop a detailed Traffic Management Plan for the work under the Contract. The purpose is to develop a Traffic Management Plan to cope with the traffic disruption as a result of construction activities by identifying strategies for traffic management on the roads and neighborhoods impacted by the construction activities, which shall be submitted to the Madurai Traffic Police for their approval and to the Employer's Representative for his Notice of No Objection. The Contractor shall implement the Traffic Management Plan throughout the whole period of the Contract and shall comply strictly with the approved plan during the construction of his works.

**10.2 Use of Roads and Footpaths**

- 1) Public roads and footpaths on the Site in which the work is not being carried out shall be maintained in a clean and passable condition.
- 2) Measures shall be taken to prevent the excavated materials, silt or debris from entering gullies on roads and footpaths; entry of water to the gullies shall not be obstructed.
- 3) Surfaced roads on the Site and leading to the Site shall not be used by tracked vehicles unless protection against damage is provided.
- 4) Contractor's Equipment and other vehicles leaving the Site shall be loaded in such a manner that the excavated material, mud or debris will not be deposited on roads. All such loads shall be covered or protected to prevent dust being emitted. The wheels of all vehicles shall be washed when necessary before leaving the Site to avoid the deposition of mud and debris on the roads.

**10.3 Reinstatement of Public Roads and Footpaths**

- 1) All street furniture, including signs, stone kerbs, boxes, lights, traffic lights, etc., that has to be removed due to the Contractor's works or temporary traffic arrangements whereby the Contractor shall arrange for their storage, either in the relevant Government Departments or at the Contractor's own works area(s), for which an agreed inventory, including a photographic record, shall be submitted to the Employer's Representative for a Notice. Existing street furniture shall be reused where ever possible, and any street furniture that can't be reused shall be agreed in writing with the Employer's Representative.

Temporary diversions, pedestrian access and lighting, signing, guarding and traffic control equipment shall be removed immediately when they are no longer required. Roads, footpaths, street furniture and other items affected by temporary traffic arrangements and control shall be reinstated to their original condition as existed before the work started or as permitted by the Employer's Representative immediately after the relevant work is complete or at other times permitted by the Employer's Representative. '

The Contractor shall submit his design for the reinstatement to the relevant authorities and obtain their prior approval for carrying out the work. Reinstatement works shall include, but not be limited to, the following:

- (a) Parking bays
- (b) Footpath and kerbs
- (c) Road Signage
- (d) Street Lighting
- (e) Landscaping
- (f) Traffic Lights and Control Cable
- (g) Road painting

**11. TESTING****11.1 General**

- 1) The Contractor shall provide and perform all forms of testing procedures applicable to the Works and various components and the interfacing of the Works with the other project works and shall conduct all necessary factory, site and acceptance tests.
- 2) All testing procedures shall be submitted at least thirty (30) days prior to conducting any Test. The Testing procedures shall show unambiguously the extent of testing covered by each submission, the method of testing, the Acceptance Criteria, the relevant drawing (or modification) status and the location.
- 3) The testing Procedures shall be submitted, as required, by the Contractor during the duration of the Contract to reflect changes in system design or the identification of additional testing requirements.
- 4) The Employer's Representative shall have the facilities for monitoring all tests and have access to all testing records. Ample time shall be allowed within the testing programs for necessary alterations to equipment, systems and designs to be undertaken, together with re-testing prior to final commissioning.

system will be energized and the additional precautions for the safety of staff and co-ordination of activities after power-on shall be anticipated.

- 6) All costs associated with the Testing shall be borne by the Contractor, unless otherwise specified, including the services of any specialized personnel or independent assessors. The Contractor shall also bear any expenses incurred due to resetting caused by defects or failure of equipment to meet the requirements of the Contract in the first instance.
- 7) Unless a Notice is issued by the Employer's Representative, the personnel engaged on testing shall be independent of those directly engaged in the design or installation of the same equipment.
- 8) All testing equipment shall carry an appropriate and valid calibration labels.

## **11.2 Batches, Samples and Specimens**

- 1) A batch of material is a specified quantity of the material that satisfies the specified conditions. If one of the specified conditions is that the material is delivered to the Site at the same time, then material delivered to the Site over a period of a few days may be considered as part of the same batch if in the opinion of the Employer's Representative there is sufficient proof that the other specified conditions applying to the batch apply to all of the material delivered over the period.
- 2) A sample is a specified quantity of material that is taken from a batch for testing and which consists of a specified amount, or a specified number of pieces or units, of the material.
- 3) A specimen is the portion of a sample that is to be tested.

## **11.3 Samples for Testing**

- 1) Samples shall be of sufficient size and in accordance with relevant Standards to carry out all specified tests.
- 2) Unless agreed otherwise by the Employer's Representative samples taken on the Site shall be selected by, or taken in the presence of; the Employer's Representative and shall be suitably marked for their identification. An identification marking system should be evolved at the start of works in consultation with the Employer's Representative.
- 3) Samples shall be protected, handled and stored in such a manner that they are not damaged or contaminated and such that the properties of the sample do not change.
- 4) Samples shall be delivered by the Contractor, under the supervision of the Employer's Representative, to the specified place of testing. Samples on which non-destructive tests have been carried out shall be collected from the place of testing after testing and delivered to the Site or other locations instructed by the Employer's Representative.
- 5) Samples which have been tested may be incorporated in the Permanent Works provided that:
  - (a) the sample complies with the specified requirements;
  - (b) the sample is not damaged; and
  - (c) the sample is not required to be retained under any other provision of the Contract.

- 6) Additional samples shall be provided for testing if in the opinion of the Employer's Representative:
  - (a) material previously tested no longer complies with the specified requirements; or
  - (b) material has been handled or stored in such a manner that it may not comply with the specified requirements.

#### 11.4 Testing

- 1) The Contractor shall be responsible for all on-site and off-site testing and for all in-situ testing. All appropriate laboratory tests shall be carried out in the Contractor's laboratory, unless otherwise permitted or required by the Employer's Representative. Where the laboratory is not appropriately equipped and/or staffed for some tests, or if a Notice has been issued by the Employer's Representative, tests may be carried out in other laboratories provided that:
  - (a) they are accredited for the relevant work to a standard acceptable to the Employer's Representative; and
  - (b) particulars of the proposed laboratory are submitted to the Employer's Representative for a Notice.
- 2) Unless agreed otherwise by the Employer's Representative in-situ tests shall be done in the presence of the Employer's Representative.
- 3) Equipment, apparatus and materials for in-situ tests and laboratory compliance tests carried out by the Contractor shall be provided by the Contractor. The equipment and apparatus shall be maintained by the Contractor and shall be calibrated before the testing starts and at regular intervals as permitted by the Employer's Representative. The equipment, apparatus and materials for in-the situ tests shall be removed by the Contractor as soon as practicable after the testing is complete.
- 4) The Contractor shall be entitled in all cases to attend the testing carried out in the Employer's or other laboratories, to inspect the calibration certificates of the testing machines and to undertake the testing on counterpart samples. Testing of such samples shall be undertaken in laboratories complying with Clause(18) above and particulars of the laboratory proposed shall be submitted to the Employer's Representative for his Notice of No Objection prior to the testing.
- 5) Attendance on tests, including that by the Employer's Representative, Contractor and Designer, shall be as laid down in the Quality Assurance procedures.

#### 11.5 Records of Tests

- 1) Records of laboratory compliance tests carried out by the Contractor shall be kept by the Contractor on the Site and a report shall be submitted to the Employer's Representative within seven (7) days, or such other time stated in the Contract or in the Quality Assurance Program, after completion of each test. In addition to any other requirements, the report shall contain the following details:
  - (a) material or part of the Works tested;
  - (b) location of the batch from which the samples were taken or location of the part of the Works;
  - (c) place of testing;

- (d) date and time of tests;
  - (e) weather conditions in the case of in-situ tests;
  - (f) technical personnel supervising or carrying out the tests;
  - (g) size and description of samples and specimens;
  - (h) method of sampling;
  - (i) properties tested;
  - (j) method of testing;
  - (k) readings and measurements taken during the tests;
  - (l) test results, including any calculations and graphs;
  - (m) specified acceptance criteria; and
  - (n) other details stated in the Contract.
- 2) Reports of tests shall be signed by the Project Manager or his assistant, or by another representative authorized by the Contractor.
- 3) If requested, records of tests carried out by the Employer's staff or by the Employer's Representative shall be given to the Contractor.

#### **11.6 Production Tests (At Factory)**

- 1) Should the Works include any equipment not previously proven in service the Contractor shall undertake a thorough testing of the same at pre-production stage to the satisfaction of the Employer's Representative. The Contractor shall identify any equipment in this category, or equipment that differs significantly from that already in service elsewhere.
- 2) All materials, components, sub-assemblies, unit assemblies (including Software, cables and wiring) shall be subject to testing and certification. Notification of these tests shall be submitted to the Employer's Representative thirty (30) days in advance of carrying out any tests, The Employer's Representative will then determine which items, if any, may be accepted based on previous supply or experience.
- 3) Factory Tests shall include but not be limited to:
- (a) Physical inspection
  - (b) Dimension check
  - (c) Electrical check
  - (d) Calibration
  - (e) Output check
  - (f) Operational performance
  - (g) Full Load test
  - (h) Flash-over test
  - (i) Insulation test
  - (j) Soak test
  - (k) Non-destructive test to assess integrity or strength of parts
- 4) Where processor based equipment is to be used then the Manufacturing Test shall include also verification of software used in this application.



**11.7 Post Installation Tests (On Site)**

- 1) During and on completion of the installation, the Contractor shall undertake testing of all cables, wiring and equipment, instrumentation and protection devices, in a progressive sequence and in accordance with the overall testing program. These tests shall culminate in functional tests to verify the correct operation of all apparatus and, where appropriate, correct response to the respective control commands or monitored function.
- 2) Following satisfactory completion of these Tests, the Contractor shall prepare the installation for official demonstration in the presence of the Employer's Representative.

**11.8 Acceptance Tests**

- 1) The Contractor shall prepare and organize a comprehensive program of acceptance Tests to demonstrate to the Employer's Representative that all systems, sub-systems and apparatus defined under the Contract meet the specified performance requirements in all respects.
- 2) These Tests shall be conducted by the Contractor in the presence of the Employer's Representative.

**11.9 Integrated System Tests**

The Contractor shall submit to the Employer's Representative requirements and procedures, in respect of the Contractor's scope of work for Integrated System Tests in conjunction with the Interfacing Contractors to demonstrate that the complete system provided under the Contract is fully operational and meets the specified performance criteria. The conducting of these Integrated System Tests, by the Contractor and the Interfacing Contractors, shall include a period of Test running.

**12. MATERIALS**

- 1) Materials and goods for inclusion in the Permanent Works shall be new unless the Employer's Representative has issued a Notice otherwise. Preference shall be given to local materials where available. These materials shall be procured only from approved Manufacturers/Suppliers.
- 2) Certificates of tests by manufacturers which are to be submitted to the Employer's Representative shall be current and shall relate to the batch of material delivered to the Site. Certified true copies of certificates may be submitted if the original certificates could not be obtained from the manufacturer.
- 3) Parts of materials which are to be assembled on the Site shall be marked to identify the different parts.
- 4) Materials which are specified by means of trade or proprietary names may be substituted by materials from a different manufacturer which have received a Notice from the Employer's Representative, provided that the materials are of the same or better quality and comply with the specified requirements.
- 5) Samples of materials submitted to the Employer's Representative for information or Notice shall be kept on the Site by the Contractor in a secure dry storage room and shall not be returned to the Contractor or used in the Permanent Works unless the Employer's Representative has issued a Notice of No Objection. The samples shall be used as a means of comparison which the Employer's Representative shall use to determine the quality of the materials subsequently delivered. Materials delivered to the Site for use in the Permanent Works shall be of the same or better quality as the samples which have received a Notice.

**12.1 Provision of Earthworks Material and Disposal including Waste**

- 1) The Contractor shall be responsible for the provision of all classes of earthworks material required for the Works, whether sourced from the excavations within the Contract or obtained from any other sources, which are located outside the Site, for which the Employer's Representative has given a Notice. A Notice of No Objection will only be given after the Contractor has provided evidence that the Contractor is legally authorized to extract material from the source.
- 2) For fill or dumping sites, the Contractor shall prepare a land plan with details of surface drainage requirements, final formation levels, spreading and compaction of the fill during dumping acceptable to the Employer's Representative. The Contractor shall also provide security for such sites. The dumping sites to be used by the Contractor shall be identified and provided by the Contractor and with the approval of the relevant authorities and having obtained a Notice from the Employer's Representative.
- 3) All excavated material, excluding waste material, bentonite fluid and bentonite contaminated material shall be disposed of at appointed sites only. This material shall be placed and compacted in accordance with the Construction Specification for Earth Works or as otherwise directed by the Engineer's Representative.
- 4) The disposal of waste material, bentonite fluid and material contaminated with bentonite shall be the full responsibility of the Contractor and these materials shall be disposed of by the Contractor in a location approved by relevant authorities. The dumping sites provided by the Employer shall not be used for disposal of waste material, bentonite fluid or material contaminated with bentonite.

**12.2 Restoration of Areas Disturbed by Construction**

Unless otherwise directed by the Employer's Representative, any areas disturbed by the construction activity, either inside or outside the Project Right of Way or Site Areas, shall be reinstated as follows:

All areas affected by the construction work shall be reinstated to their original condition, or better, with new materials, including but not necessarily limited to, sidewalks, parking lots, access roads, adjacent roads, adjacent properties and landscaping. Grass cover shall be provided for any bare earth surface areas, along with proper provisions for surface drainage.

**13. MATERIALS AND WORKMANSHIP TO CONFORM TO DESCRIPTION**

All materials and workmanship shall so far as procurable be of the respective kinds described in the schedule of quantities and/or specifications and in accordance with the Employer's instructions and the contractor shall upon the request of Employer furnish him with all invoices, accounts, receipts and other vouchers to prove that the materials comply therewith. The contractor shall at his own cost arrange for and/or carry out any test of any materials which the Employer may require.

- a. Clean M. Sand & P. Sand shall be used in all cases.
- b. Only clean and fresh water shall be used on the work. The contractor shall make his own arrangements for water and power supply required for the execution of the work and shall meet all charges therefor. The special attention of the contractor is drawn to Clauses of TNBP regarding water and lighting.

- c. The broken stones for concrete and RCC work should be of hard blue granite and passed by the Engineer/Employer.
- d. The work shall be carried out with least hindrance to the adjoining building and the contractor will be responsible for any damages caused to the existing fixtures, electric fittings etc. in the course of execution and the contractor shall make good to original condition any damage, without any claim for extra.
- e. Concrete works: All exposed concrete surfaces will be required to be finished by cement plaster as instructed.
- f. Plastering: All external corners, edges of doors and window openings etc. shall be finished sharp using rich mortar and also finished truly vertical or horizontal as the case may be. The rate for plastering shall include the cost of finishing as above and no separate extra for the corners, edges, beams etc. shall be paid.
- g. Employer reserves the right, to split up the work and entrust the split-up portions to different contractors if found necessary on valid reasons.
- h. Projections if any required in the masonry will be measured under the relevant items and no extra will be paid off for finishing the same.
- i. The arrangement of TMT / RTS /M.S. rods for all RCC works shall be in accordance with the working drawing supplied.
  - (i) Steel Centering using MS Sheets / Angles / Channels / MS Fabricated Spans / Ties / Beams / Adjustable Steel Props shall be used on the work. Wherever it is impossible to use steel centering, wooden centering will be permitted depending upon the nature and conditions of the works to be executed. In such cases, the planks for forms and centering for RCC works shall be of well-seasoned timber approved by the Employer/Engineer. They must be made smooth and perfectly level at the top so as to give smooth and even finish to the RCC Ceilings. Mango Planks shall not be used under any circumstances. Centering and formwork shall be provided to the extent and area ordered by the Employer/Engineer.
  - (ii) Payment for centering works for all RCC items shall be made only after the concrete is laid.
  - (iii) All cement concrete for RCC works shall be machine mixed and vibrated.
- j. The Contractor shall procure 43 grade (Conforming to IS: 8112) Ordinary Portland Cement for all works as required in the work, for production of Batch Mixed Concrete from the 'On-site' automatic batch mix plant. The cement shall be procured from reputed manufactures as approved by the Employer/Engineer. Samples of cement arranged by the Contractor shall be got tested by contractor in accordance with provisions of the relevant BIS codes. In case test results indicate that the cement arranged by the Contractor does not conform to the relevant BIS codes, the same shall stand rejected and shall be removed from the site by the Contractor at his own cost forthwith. Procurement of cement of other type and grade shall be on prior approval of the Employer/Engineer for specific area of application.
- k. Wherever dewatering of sub soil water is necessary for the execution of works the cost of the same should be borne by the contractor only and no extra claim whatsoever on this account will be admitted.

- I. To meet the LEED certification, required ingredients such as fly ash/GGBS to be added in required proportion to meet the strength requirements.
- m. The Contractor shall not be paid for any extra working space beyond concrete dimensions during excavation of foundations of various proposed structures in the Project. Any damage done to the work due to the contractor's operation beyond the excavation lines shall be repaired at the expense of the contractor. Any and all excess excavation or over breaking performed by the contractor for any purpose or reason except as may be ordered in writing by the Engineer/Employer and whether or not due to the fault of the contractor shall be at the expense of the contractor. Cost of refilling for all such excavation with materials as specified by the Engineer/Employer has to be done by the contractor at his expense.
- n. Only the actual quantity of steel embedded in concrete including laps as shown on drawings or as approved by Engineer/Employer shall be measured and paid for, irrespective of the level or height at which the work is done. The unit rate for reinforcement shall include all laps, wastage, binding wires, chairs, spacer bars, etc. for which no separate payment shall be made.

#### **14. SAMPLES :**

- All samples of adequate numbers, sizes, shades & pattern as per Specification shall be supplied by the Contractor without any extra charge. Apart from adhering to any special provision made in the Specifications regarding submission of samples the Contractor shall within 10 Days of approval of shop Drawings and Technical Data sheets, provide to the PMC samples along with the detailed literature of all Materials he proposes to use in the Works irrespective of the fact that a specific make/material might have been stipulated. If certain items, proposed to be used, are of such nature that samples cannot be presented or prepared at the Site, detailed literature/test certificate of the same shall be provided instead, to the satisfaction of the PMC/Employer. Before submitting the samples/literature the Contractor shall satisfy himself that the material/equipment for which he is submitting the samples/literature meet with the requirement of the Specification. The PMC/Employer shall check the samples and give his comments and/or approval to the same. Only when the PMC/Employer approves the samples in writing, the Contractor shall proceed with the procurement and installation of the particular material/ equipment. The Approved samples shall be signed by the PMC for identification and shall be kept on record at Site office until the completion and acceptance of the Works and shall be available at the Site for inspection/comparison at any time. The Contractor shall keep with him a duplicate of such samples to enable him to process the matter.
- For items of work where the samples are to be made at the Site, the same procedure shall be followed. All such samples shall be prepared at a place where it can be left undisturbed until the completion of the project.
- The PMC/Employer shall communicate his comments/approval to the CONTRACTOR to the samples at his earliest convenience. Any delay that might occur in approving of the samples for reasons of its not meeting with the Specifications or other discrepancies, inadequacy in furnishing samples of best qualities from various manufacturers and such other aspects causing delay on the approval of the Materials/equipment, etc. shall be to the account of the Contractor. In this respect the decision of the PMC/ Employer shall be final.

- On or before delivery of the supplies of Materials/equipment for permanent Works at the Site, the Contractor shall specifically arrange to get the supply inspected by the PMC/Employer if necessary at his/ manufacturer's workshop/s and compared with the Approved sample and his specific approval obtained before using the same in the work.
- If the Contractor wants to take back the samples after it serves the purpose at Site, it shall be taken back with the approval of PMC / Employer.

**15. COST OF TESTS :**

The cost of making any test shall be borne by the Contractor if such test is intended by or provided for in the Specification or Bill of quantities.. If after any such test the work or portion of works is found in the opinion of the PMC/Employer to be defective or unsound, the Contractor shall pull down and redo the same at his own cost. Defective materials shall immediately be removed from the site at his own cost.

**16. QA PLAN:**

- Contractor shall, within twenty days of issue of Letter of Award submit for the review and approval of PMC, a Quality Assurance Plan (QAP) along with relevant QC formats detailing out the tests that he proposes to conduct for the compliance of the specified standards. PMC shall within seven Days review and convey his comments/approval which shall be implemented by Contractor.
- Wherever a specific Quality Assurance Plan is provided with the RFQ or agreed as part of the commercial discussions, the same shall be binding on the Contractor. Wherever any specific QAP is either not agreed or specified, the Employer reserves the right to depute its representative for inspection of equipment during various stages of manufacture. The Contractor shall provide an advance notice of minimum 7 Days to the Employer to enable it to depute its representative for stage inspections whenever requested. Employer also reserves the right to inspect the material on receipt and reject material/s found defective/not complying with the Specifications/standards stated in the Contract. Contractor shall arrange to collect the rejected material from the delivery location and replace it with quality material in compliance to the Contract Specifications at its own costs and risks within maximum 1 Week of such intimation.

**17. SITE OFFICE ACCOMMODATION:**

The contractor has to consider following facilities while quoting their cost in the tender.

**Site Office:**

- The Contractor has to make his own arrangements for establishing a site office in the nearby vicinity for his establishment and to provide office stationary and consumables till the entire contract period for Engineer/PMC and Employer. Space will be provided by TIDEL at the site.
- The Contractor shall provide at his own expense adequate office accommodation for Engineer and Employer of works preferably contiguous to his office and shall maintain the same in a satisfactory condition and shall provide light, AC, fan, attendant etc., for the same and shall remove them after completion of the works. He shall arrange to provide latest survey Instruments and at all times maintain the same in good working order at site, to enable the Engineer of works or other representative of Employer to

check the lines and levels of the work. Site office for Engineer/PMC and Employer shall be operated by Contractor till receipt of final bill certification by Engineer/PMC.

The Contractor shall provide and maintain the following facilities for the Employer and their representatives as per the requirement given below for the entire duration of project. The Contractor shall provide all the listed facilities compliant with standards of an operational office premises.

**General Instructions:**

- i All debris to be carted out from the site premises (to non-objectionable places/Government notified area)
- ii The office premises shall be identified in such a way that the set-up is not disturbed till the completion of all activities and handover of project site.
- iii The temporary buildings and other facilities shall be maintained in a clean and orderly condition by providing suitable housekeeping workers and consumables.
- iv The Contractor's proposals for the design and location of the site offices and temporary buildings shall be submitted within one week of the award of the contract and erected within four weeks from the date of commencement of works at site.
- v Site office shall be furnished and made fully operational, including uninterrupted Power supply with UPS back up, internal and external lighting with fixtures, water supply, sanitation facilities, computers etc.,.
- vi The Contractor shall allow for the altering, shifting and adapting of the temporary buildings from time to time as required by the PMC/Employer, at no extra cost for shifting or alteration. The Contractor shall comply fully with the requirements of the Employer with regard to temporary building, as necessary.
- vii Suitable first-aid equipment is to be kept at the site and the Contractor is to arrange for all necessary medical aids.
- viii These buildings shall be dismantled and removed and the site shall be made good within two (2) weeks of receipt of an order from the PMC/Employer for the removal of the said buildings. The project office and all other temporary facilities shall be made at elevated level of at least 900mm from existing ground level.
- ix All works must be carried out inclusive of supply/installation /loading/unloading/ necessary site preparation etc.,
- x The Contractor shall construct the project office for Employer and PMC for area mentioned below. The contractor shall operate and maintain the same with related facilities till the Completion of the Project in all respects and settlement of all bills. All costs towards installation and operation including consumables, spares, salaries for office boys /pantry attendants and any other expenses shall be deemed to have been included in the quoted rates for the project. All items/manpower provided shall be subject to approval of the Employer/PMC.
- xi Site office shall be completed including furnishing and making it fully operational, including uninterrupted Power supply with UPS back up, internal and external lighting



with fixtures, water supply, sanitation facilities, computers Network facilities, internet connections etc., within 4 weeks from the date of commencement of works at site.

- xii The facilities such as furnitures, storage cabinets, display boards, workstations, meeting halls, projectors, internet connectivity etc. as required and refreshment arrangements, housekeeping arrangements, safety equipment, Helpers shall be provided by Contractor for offices of PMC and Employer in the respective areas as indicated. The details are indicative and may vary marginally depending on requirements.
- xiii The bidder shall visit the site to assess the site conditions, services requirements, access to the location etc., and include in the quoted price appropriately.
- xiv The Contractor shall include the cost of building, the stated facilities, replenishing the consumables and maintaining the same in the price bid submitted and not cost for it separately.
- xv In case of default alternate premises shall be hired and all expenses including additional transport expenses, telephones etc. shall be deducted from the Contractor's dues.
- xvi layout of site accommodation has to be got approved by PMC/Employer

#### **Employer's Office**

The Contractor shall provide, erect and maintain at his cost separate, simple, water-tight officer accommodation of not less than floor area indicated below for Employer. The accommodation should be well lighted and ventilated and provided with a lockable door and windows, with desks, drawers for drawings, a cupboard and tack board for display of drawings. This accommodation shall be demolished and removed by the Contractor at his own cost when directed.

- i) 500 Sq.ft. Office space with Air Conditioning for 5 Persons.
- ii) Work Stations of standard size.
- iii) Table & chair with rack arrangements.
- iv) Computers – 5 number and printer – 1 number.
- v) Standard printer with Photo copier facility capable of A3 & A4 size-1 Number
- vi) Internet with Wifi facilities.

#### **Engineer/PMC Office**

The Contractor shall provide, erect and maintain at his cost separate, simple, water-tight officer accommodation of not less than floor area indicated below for Engineer/PMC. The accommodation should be well lighted and ventilated and provided with a lockable door and windows, with desks, drawers for drawings, a cupboard and tack board for display of drawings. This accommodation shall be demolished and removed by the Contractor at his own cost when directed.

- i) 750 Sq.ft. Office space with Air Conditioning for 9 Persons.
- ii) Work Stations of standard size.
- iii) Table & chair with rack arrangements.
- iv) Computers – 8 Numbers and Printer -1 number
- v) Standard printer with Photo copier facility capable of A3 & A4 size-1 Number
- vi) Internet with Wifi facilities.

**Common facility**

- 750 sq.ft.-One common conference hall with AC, furnitures to accomodate 10 persons
- Toilet and Hand Wash area.
- All Offices and Conference Hall to be Air Conditioned and ceiling fans also to be provided.
- Reception and Waiting Area shall be properly marked in the layout and provided with waiting area chairs and Hot/cold water dispenser
- Pantry to be functional with arrangements for coffee, tea, soft drinks etc. and exclusive Office boys attendant to be provided.
- Daily Tea for two times along with snacks for all the employees of PMC and Employer is under the scope of Contractor, till completion of works or Final bill submission, whichever is later.
- Adequate crockery cutlery and other utensils and equipment in Pantry to be provided
- Housekeeping arrangements shall be made to clean the complete site office complex and premises, including toilets every day and also to maintain all areas in spotlessly clean condition throughout the day.
- Drinking water with dispenser shall be provided to all site office staff as and when required.
- Office Assistant (to be computer literate) - 1 No.
- Office boy - 1 no
- Safety helmets, safety shoes and monsoon shoes shall be provided for all staff of Employer, Engineer/ PMC.
- Above facilities shall be made available for visitors also - 20 nos.
- Blinds / curtains shall be provided for all windows
- Exclusive security guards shall be provided for the site office round the clock
- A separate dining area shall be earmarked with Dining Table, Chairs and hand wash to accommodate minimum of 16 people.
- All signage for site office as required shall be provided.
- The Contractor shall include the cost of building, the stated facilities, replenishing the consumables and maintaining the same in the price bid submitted and not cost for it separately.
- Separate internet connectivity shall be provided for PMC office and Client office. No tapping for contractor's office or any other stakeholder.
- Contractor to provide lunch for the participants during Monthly Review Meetings

**18. STORAGE**

- The Contractor shall make arrangements for his own stores at a location jointly identified by PMC/Employer at the Site. Space will be provided by TIDEL at the site. The Contractor shall be responsible for the security of his goods. Establishment of stores shed and compliance to statutory requirements for such stores shall be in Contractor's scope. Also, it is the obligation of Contractor to return the space utilized for such temporary stores in its original condition of handing over. Any corrective action which may require for regaining to its original condition shall be at Contractor's cost.
- The Contractor shall ensure that no explosive or inflammable material is used or stored at the Contract Site. In the event such material is essential as part of execution of the Contract work, written permission shall be sought from the PMC/Employer's

representative and it shall be the sole responsibility of the Contractor to ensure acquisition of necessary statutory permits and clearances and proper storage and handling of such material.

- The Contractor shall provide for necessary sheds of adequate dimension for storage and protection of materials like cement, steel, lime, timber and such other materials including tools and equipment which are likely to deteriorate by the action of sun, wind, rain or other natural causes due to exposure in the open. All such sheds shall be cleared away and the whole area left in good order on completion of the contract to the satisfaction of the PMC/Employer. All materials which are stored on the site such as bricks, aggregates etc., shall be stacked in such a manner as to facilitate rapid and easy checking of quantities of such materials.

## **19. HEALTH AND SANITARY PROVISION FOR WORKERS EMPLOYED BY CONTRACTORS**

The Contractor has to make his own arrangement for the labour sheds for his labour requirement at his own expenses, the following amenities to the satisfaction of the Employer/PMC.

### **a. First Aid**

At the work site, there shall be maintained in a readily accessible place, first aid appliances and medicines including adequate supply of sterilized dressings and sterilized cotton wool. The appliances shall be kept in a good order. They shall be placed under the charge of a responsible person who shall be readily available during working hours.

### **b. Drinking Water**

- i. Water of good quality fit for drinking purpose shall be provided for the work people on a scale of not less than a gallon per head per day.
- ii. Where drinking water is obtained from an intermittent public water supply, each workplace shall be provided with storage tank where such drinking water shall be stored.
- iii. Every water supply and storage shall be at a distance not less than 50 feet away from any latrine, drain or other existing well which is within such proximity of latrine, drain or any other source of pollution. The well shall be properly closed, if water is drawn from it for drinking. All such wells shall be entirely closed and be provided with a trap door and shall be dust and waterproof.
- iv. A reliable pump shall be fitted to each covered well. The trap door shall be kept locked and opened only for cleaning or inspection which shall be done at least once a month.

### **c. Washing and Bathing Places**

Adequate washing and bathing places shall be provided separately for men and women. Such places shall be kept in clear and drained condition. Bathing or washing should not be allowed in or near the drinking water well.

### **d. Latrine and Urinals**

There shall be provided within the premises of every workplace and accommodation for labourer's latrines and urinals in an accessible place separately for each of them. The number of toilets to be provided shall not be less than the following in any particular case.

- i. Where the number of persons employed does not exceed 50 - 2 Nos
- ii. Where the number of persons employed exceed 50 but does not exceed 100 - 3 Nos
- iii. For every additional 100 persons - 3 Nos

If women are employed, separate latrine and urinals screened from those for men shall be provided on the same scale. Except in workplaces provided with water flushed latrine connected with a water borne sewerage system, all latrines shall be provided with receptacle dry earth system which will be cleared at least four times daily and at least twice during working hours and kept in a strictly sanitized condition.

The latrine and urinals shall be tarred inside and outside at least once a year. The excreta from the latrines shall be disposed of at the contractor's expenses in outside pits approved by the local Public Health Authority. The contractor shall also employ adequate number of scavengers, conservancy staff to keep the latrine and urinals in a clear condition.

**e. Shelter During Rest**

At the work site there shall be provided, at free of cost, two suitable sheds one for meals and another for rest for the use of labour.

**f. Creche**

At every workplace at which 25 or more women are working there shall be provided two huts of suitable size for the use of children under the age of 6 years belonging to such women. One hut shall be used for infant's games and play and the other as their bedroom. The huts shall not be constructed on a lower standard than the following:

- i. Light roofs
- ii. Concrete floor and block walls

The size of the crèches should vary according to the number of women workers. The crèches should be properly maintained and necessary equipment like toys, etc. should be provided and huts shall be provided with suitable and sufficient sweepers to keep the place clean. There shall be two Ayas in attendance. Sanitary facilities shall be provided to the satisfaction of the health Officer of the area concerned. Two number of huts shall be constructed to children and attendants of the children.

**g. Canteen**

A cooked food canteen on a moderate scale shall be provided for the benefit of the workers, if it is considered expedient.

**h. Sheds for Workmen**

The Contractor Should provide at his own expense, shed for housing the inside the project subject to prior permission/clearance from the EC/Client by submitting relevant site Mobilization Plan.

The sheds be on a standard not less than the clean shelter type to live in which the workers pertaining to the locality are accustomed to. Floor area of about 6' x 5' for 2 persons shall be provided. The sheds are to be in a row with 5' clear space between

sheds and 80' clear space between row if conditions permit. The work people's camp shall be laid out in units of 400 persons each. Each unit is to have clear space of 48' all-round. Sheds shall be maintained clean always.

- a. The Contractor, shall, at his own expense, make adequate arrangements for the housing with supply of drinking water, provision of bathrooms, latrines and urinals, with adequate water supply, for his staff and workmen employed on the Works at the location authorized by the Employer. Workers are not allowed to sleep inside project premises, irrespective of any working shifts.
- b. Camp facility shall need to comply with local and State Health Department Regulatory requirements. Presence of a doctor to address health / Hygiene requirements is essential
- c. The Contractor at his own cost shall maintain all campsites in a clean and sanitary condition. The Contractor shall obey all health and sanitary rules and regulations and carry out at his cost all health and sanitary measures that may from time to time be prescribed by the Local/Medical Authorities and permit inspection of all health and sanitary arrangements at all times by the PMC/Employer and the staff of the local municipality or other Authorities concerned.
- d. The Contractor shall at his own cost, provide First Aid and Medical facilities at the Labour Camp and at work sites on the advice of the Medical Authority in relation to the experience, and number of the Contractor's staff and workmen.
- e. The Contractor shall at his own cost, provide minimum requirements for fire precautions.
- f. The Contractor at his own cost shall provide necessary arrangements for keeping the camp area sufficiently illuminated to avoid accidents to the workers. He should also ensure that electrical installations are done by Trained Electricians. These installations shall be maintained, and daily maintenance records must be made available for inspection of the PMC/Employer.
- g. Employer/PMC has the right to access the labour colony at any point of time for inspection.
- h. Contractor to take own arrangements for workers to travel to site. Employer will not provide any support on this.

### **Camp Discipline**

- a. The Contractor shall take requisite precautions and use his best endeavours to prevent any riotous or unlawful behaviour by or amongst his workmen, and others, employed directly or through Sub-Contractors. These precautions shall be for the preservation of the peace and protection of the inhabitants and security of property in the neighbourhood of the Works.
- b. The sale of alcoholic drinks or other intoxicating drugs or beverages upon the work, in any labour camp, or in any of the buildings, encampments or tenements owned or occupied by, or within the control of, the Contractor or any of his employees directly or through Sub-Contractors employed on the work, shall be

forbidden, and the Contractor shall exercise his influence and authority to secure strict compliance with this condition. The Contractor shall also ensure that no labour or employees are permitted to work at the site in an intoxicated state or under the influence of drugs.

- c. The Contractor shall remove from his camp such labour and their families, who refuse to accept protective inoculation and vaccination when called upon by the Medical Authority. Should Cholera, Plague or any other infectious disease break out, the Contractor shall at his own cost burn the huts, bedding, clothes and other belongings of, or used by, the infected parties.

### **Labour Accommodation**

The Contractor shall provide living accommodation that is equal to or exceeds the minimum criteria established in the following sub-sections, needed to house his staff, workers employed directly or through Sub-Contractors.

### **Accommodation Buildings**

- a. The buildings shall be constructed so as to have a minimum life of not less than the length of the Contract.
- b. The roofs shall be watertight and laid with suitable non-flammable materials permissible for residential use under local regulations.
- c. Each hut shall have suitable ventilation. All doors, windows, and ventilators shall be provided with security leaves and fasteners.
- d. The minimum height of each unit shall be 2.10 m and shall have separate cooking place.
- e. Suitable number of common toilets/bath facilities shall be provided.

### **Water supply**

- a. The Contractor shall provide an adequate supply of water for the use of labourers in the Camp.
- b. The Contractor shall also at his expense make arrangements for the provision and laying of water pipelines from the existing mains wherever available and shall pay for all the fees and charges therefore.

### **Drainage**

The Contractor shall provide efficient arrangements for draining away spillage water so as to keep the camp neat and tidy. Surface water shall be drained away from paths and roads and shall not be allowed to accumulate into ditches or ponds where mosquitoes can breed. Installation of STP to handle the sewage effluent treatment is essential

### **Sanitation**

- a. The Contractor shall make arrangements for conservancy and sanitation in the labour camps according to the rules and regulations of the Local Public Health and Medical Authorities.



- b. The Contractor shall provide a sewage system that is adequate for the number of residents in the camp, and which meets the requirements of the Municipality Authorities.

**20. GENERAL RULES TO SAFETY EQUIPMENT AND FIRST AID:**

1. All necessary personal safety equipment's shall be kept available for the use of the persons employed on the site and be maintained in a condition suitable for immediate use.
2. The workers shall be required to use the equipment thus provided and the Employer shall take adequate steps to ensure proper use of the equipment by those concerned.
3. When work is carried on in proximity to any place where there is a risk of drowning, all necessary equipment shall be provided and kept ready for use and all necessary steps shall be taken for the prompt rescue of any person in danger.
4. Adequate provision shall be made for prompt first aid treatment of all injuries likely to be sustained during the course of the work.
5. Where large workplaces are situated in cities, town or in their suburban and no beds are considered necessary owing to the proximity of city or town hospital, suitable transport shall be provided to facilitate removal of urgent cases to the hospitals. At the workplaces, some conveyance facilities such as car, shall be kept readily available to the injured person or persons suddenly taken seriously ill to the nearest hospital.
6. Proper barricading shall be erected all-round the site before commencement of the work. All construction barricading will be in the scope of bidder.
7. It is necessary that Contractor's employees from deployed at site follow the safety procedures such as using the PPE's. Contractor shall provide his employees required PPE meeting the requirements of the stated IS Specifications and Guidelines or equivalent International Standards as may be prescribed by the Engineer from time to time. Contractor shall have instituted good working procedures and practices in providing PPE, maintenance, issue, and training on their use. All PPE shall be periodically checked to ensure worn, damaged equipment are replaced expeditiously.
8. COVID Vaccinated personnel only to be deployed on site. All on-site personnel shall be compulsorily vaccinated against COVID and shall download Arogya setu app showing vaccinated and safe status and MUST follow all social distancing norms as well as safety mask as per Regulations of Union /State Government.

**21. SPECIAL CONDITION FOR GST**

The unit rates offered shall be inclusive of all taxes, except GST and levies by the Central or State Govt. or local authorities as applicable including any variation during contract period and any agreed extension of time.

**22. CONTRACTOR TO KEEP SITE CLEAR**

During the progress of the Works the Contractor shall keep the Site reasonably free from all unnecessary obstruction and shall store or dispose of any constructional plant and surplus Materials and clear away and remove from the Site any wreckage, rubbish or Temporary Works which are no longer required.

On the completion of the Works the Contractor shall clear away and remove from the Site all constructional plant, surplus Materials, rubbish, soak pit, sumps, septic tanks, left over materials, debris, RMC plant/ labour camp and Temporary Works of every kind or any other such installations as identified by PMC/Employer at his own expense and leave the whole of the Site and Works clean and in a workmanlike condition to the full satisfaction

of the PMC/ Employer not later than 10 Days from the Completion of Works or by such other later date as fixed by the PMC/Employer.

### **23. MOCK-UP**

1. The concept of Mock Ups is to assess the performance parameters / quality standards specified for specified item in the project. The main objective of the section is to address issues prior to construction to minimize disruption to the critical path of construction program and is as follows;
  - a. Determine whether the Contractor possesses required skill level necessary to construct the activity, assemblies or systems such that the as-built construction will satisfy specified requirement.
  - b. To understand the sequence of operation and discuss alternative sequencing options if any.
  - c. To assess the standard of workmanship and aesthetics to be replicated throughout the project.
  - d. To recognize and resolve potential areas of conflict prior to the commencement of construction.
2. The Contractor shall prepare the full-scale mock up at site for activity along with other vendors showing the following but not limited to:
  - a. Flooring patterns,
  - b. Painting
  - c. Joineries- Doors, Windows, Ventilators, etc. including hardware and accessories
  - d. False ceiling
  - e. Waterproofing
  - f. Glazing works
  - g. External façade systems
  - h. Plumbing fixtures
  - i. Electrical Fixtures
  - j. ELV Fixtures
  - k. Mechanical Fixtures
3. To determine the acceptable standard of workmanship, the Contractor shall execute a sample unit (one of each type decided by the PMC/Employer) completing all items of works and services such as walls, floors, plastering, joinery including fittings, painting, doors, windows etc. complete in all respects in association with other vendors.
4. The brands of various materials incorporated as well as finishes will be approved by the PMC/Project Officer. These will be guiding samples for future execution of the rest of the Units.
5. Contractor shall submit samples of an item/material from preferred make-list for approval by PMC/Employer. Before proposing any make from the said list, contractor has to ensure that the product of same is confirming to the specifications/parameters mentioned in BOQ item, technical specifications and other applicable relevant codes. Makes satisfy these parameters shall only be approved and the decision of PMC/Employer shall be final and binding.
6. Contractor shall make arrangement for placing a yard room which can be used for storing indoor and outdoor samples. The samples kept in this room shall be marked,

labelled and stored in an orderly manner to enable easy access at any time during the entire course of construction, up to completion.

7. Mock up shall be constructed by the same personnel and/or tradesmen who will be physically involved in the actual construction of the said activity or system on the project along with the respective site supervisors, key personnel who will also be available during actual construction.
8. The Contractor shall furnish the Mock up schedule taking care to ensure that sufficient time period is available between erection / installation of the mock up and actual execution of that item of work to enable the PMC/Employer to incorporate changes and take corrective actions if any.
9. The Contractor shall establish the acceptable quality of workmanship as desired by the PMC/ Employer for each of the items of the Works and their elements by preparing specimens and mock ups as directed by the PMC/ Employer.
10. All rectifications, modification and/or reconstruction, if any that will be ordered by the PMC/ Employer on account of quality issues or other reasons attributable to the Contractor, shall be carried out by the Contractor until such time the Mock-up serves the purpose.
11. All costs, expenses and time incurred by the Contractor in complying with all the above shall be deemed to be included at the appropriate section/s of the Bill of Quantities. No claims, whatsoever including extension of time will be entertained under this head.
12. Mock up shall be at site only, unless otherwise mentioned.
13. Approved mock up with method statement shall be part of QA/QC plan, to follow / execute the works at site.
14. Procurement of items with aesthetic value and visibility shall be on prior approval of PMC/Employer for specific area of application

#### **24. GOOD FOR CONSTRUCTION (GFC) DRAWINGS**

1. The work shall be carried out only in accordance with the drawings supplied by the PMC, and any other such drawings as may be issued during the course of the work, stamped "GOOD FOR CONSTRUCTION". The PMC/Employer may also issue certain drawings at various stages of the construction. The Contractor shall, however, ensure that only drawings marked "GOOD FOR CONSTRUCTION", and bearing the current revision number, shall be used for constructing the works. Superseded drawings shall be removed from the site immediately on issue of revised drawings.
2. GFC drawings will be issued to Contractor progressively by PMC.

#### **25. INFORMATION PROVIDED IN THE DRAWINGS ISSUED**

1. All dimensions, levels, etc., must be thoroughly checked before commencing work and any discrepancies shall be reported to the PMC/Employer for a decision. The Contractor must ensure that the works are constructed in accordance with the latest

revision of any drawing issued; where two drawings exist showing any part of the building, the works shall be constructed from that having the larger scale.

2. Anything mentioned in the specification but not shown on the drawings, or vice versa, shall be equally binding on the Contractor as though both are specified and shown. The omission from both the specification and drawings of express reference to any detail or work necessary and obviously intended shall not relieve the Contractor of the obligation of providing the same. The intent of the works to be done, as specified and/or as shown on drawings or as implied thereby, shall in all cases rule.
3. Additional information or details which may be required by the Contractor shall be requested for in writing, from the PMC/ Employer at least three weeks before the work proceeds.

## **26. METHOD STATEMENTS**

1. For all major items of construction and/or wherever required by the PMC/Employer the Contractor shall submit a method statement.
2. The method statement shall be in sufficient details to enable the PMC/Employer to decide whether, if the methods are adhered to, the Works can be executed in accordance with the drawings and specifications. Method statements may be required for both permanent and temporary works.
3. As a minimum, the method statement shall include
  - a. Description of method of construction
  - b. Description of temporary works
  - c. Details of construction of plant to be used
  - d. Details of materials to be used
  - e. Details of supervision to be provided
  - f. List of all foreseeable risks and precautionary measures taken.
  - g. Calculations for temporary works, staging and the like
  - h. Proposed method and sequence of removal of formwork, wherever applicable and in cases of special structural elements.
  - i. Quality assurance and management system to be adopted
  - j. Details about implementation and monitoring of HSE activities
  - k. The Contractor shall take such steps or make such changes in the said methods as may be necessary to meet the PMC/Employer's requirement. The Contractor shall not change the methods which have received the PMC/ Employer's consent without the further consent of the PMC/Employer.
  - l. Consent of the PMC/ Employer to the Contractor's proposed methods of construction shall not relieve the Contractor of any of his duties or responsibilities under the Contract.
  - m. The Contractor shall maintain at his site office a record in the form of drawings of all temporary works constructed with plans showing their location on site. The record shall be open for inspection at any reasonable time and copies shall be furnished when required.

## **27. LIMITATIONS OF WORKING SPACE**

1. The Contractor will be allocated the site and he must allow for setting of all necessary temporary site facilities, as approved by the PMC/Employer within such allocated areas.

2. The Contractor shall take all measures necessary to confine his activities to be within the confines of space available, and to prevent his workmen from trespassing beyond the site area, and cause or become a cause for any nuisance or detriment to the public, the Employer, or the occupant of existing adjacent premises or land. Such trespass by the Contractor or those employed by him, shall be stopped immediately if any complaint is made. If such trespass does occur the Contractor shall make good at his own cost any loss or damage arising by reason of such trespass.
3. The Contractor will be held solely responsible for ensuring that no nuisance arises through neglect of proper precautions and the Contractor shall indemnify the Employer against all claims which may be made in this respect.
4. The Contractor shall not use the site for any purpose other than carrying out this Contract and the siting of spoil heaps, sheds etc., necessary for the execution of the works.
5. The Contractor shall be entirely responsible for complying with any/all latest regulations of Statutory bodies and Employer requirements regarding fencing the site, storage of materials and spoil heaps, disposal of surplus materials and waste, unloading of materials, temporary buildings and facilities, sanitary arrangements, etc. No claims for delay or cost will be entertained in the event of work being stopped for a breach of any regulations.
6. The Contractor's specific attention is drawn to the clauses in the specification relating to restriction of placement of certain items of work in certain weathers/temperature conditions and he is to allow for complying with these requirements.
7. The Contractor shall be deemed to have made allowance in his price and programme for the impact on the Works as a result of any delay due to the provision of access to, and through the site generally, for other Agencies, relocation of temporary works, provision of security, lighting, signage, barriers, complying with all government and local authority regulations, etc.

## **28. EXISTING SERVICES ON, UNDER OR OVER THE SITE**

1. The Contractor shall ascertain for himself the location of existing services on, under or over the site (like electrical, water supply, sewer lines, telephone lines etc). Contractor shall take precautions to protect all such services within the confines of the site, temporarily divert as required, reinstate on completion, and immediately make good any damage at his own expense all to the satisfaction of the PMC/Employer.
2. Prior to undertaking any work to existing services, the Contractor must consult with the PMC/ Employer giving full details of the services discovered and the proposed work. No work on existing services shall be commenced until the Contractor has received the PMC/ Employer's written instructions to proceed.
3. Approval shall be obtained for any planned interruption of services in a manner so as to send appropriate notices to all concerned a minimum of two weeks in advance of the proposed disruptions.

4. Existing services and their locations may not be fully shown on the drawings and the Contractor shall liaise with the relevant authorities to determine the exact nature and full extent of such services which require protection and maintenance.
5. During the course of execution of the Works under this Contract, the Contractor is bound to undertake shifting of any Utility line(s) that are required to complete the Works satisfactorily. However, the Employer reserves the option to get such work carried out by other agency, but this shall not relieve the Contractor of any of his responsibilities and obligations under this Contract implying that this shall not be treated as compensation event for extension of time unless otherwise consented by PMC/Employer.
6. Contractor should deploy adequate / appropriate dust control measures at site during the execution of the project, constant watering of the project site is basis requirement to control the dust

## **29. CRANES AND LIFTING/HOISTING PLANT**

1. Mobile cranes, Stationary cranes, lifting plants and hoisting plants and the like, shall be deployed at appropriate locations in required numbers and capacities, from time to time, in order to facilitate carriage, movement, setting in position, erection and installation of the various work components, materials, plants and equipment, etc. as would be required by the Contractor to handle the type and quantum of works in progress.
2. All these plants shall be appropriately and adequately augmented, if and when required by the PMC/Employer, for the purposes of overcoming delays and/or expediting any particular process of construction.
3. The Contractor shall keep these plants always in good working condition and shall subject these to rigorous safety inspections and submit such inspection reports to the PMC/Employer, as part of the weekly progress report.
4. If at any time, any of these equipment are served with a Non- Compliance Report (NCR) by the safety inspector, the Contractor shall ensure that the non-compliant equipment shall be immediately put out of use, until the required repair and maintenance work on the equipment are completed and safety officer certifies that the equipment is now compliant.
5. The Contractor shall be responsible for the replacement of those equipment that are deemed Non-compliant with safety requirements, all at his own cost.
6. Contractor to submit fitness certificate from an engineer empanelled by Employer / PMC for all the cranes, lifting hoists, lifting tools like metal ropes etc. used at site.
7. Eye testing / Vertigo Testing is mandatory for all the crane operators, testing has to be done with qualified personnel.
8. Vertigo testing and Clearance by a qualified person is mandatory for the labourers employed at site.



**30. SCAFFOLDING/WORKING PLATFORMS**

1. The Contractor shall provide all necessary temporary scaffolding and working platforms for the proper execution and completion of the Contract. These shall be altered, relocated and adapted from time to time as would be necessary.
2. If the Contractor should strike any of his scaffolding or working platform and it is so required it shall be re-erected at his own expenses.

**31. ACCESS TO PROPERTY AFFECTED BY THE WORKS**

1. Wherever any property has had its access cut off owing to the ongoing works the Contractor shall provide and maintain pedestrian, and wherever required, vehicular access to such locations.
2. Such temporary access shall be provided at all times with the use of steel plates, ramps, ducts etc. all to the approval of the PMC/Employer.

**32. MEASURING AND SURVEYING EQUIPMENTS**

1. All surveying equipment and measuring instruments, accessories and stationeries that would be required to carry out and complete all the setting out of each and every component of every item of work at every stage during the entire duration of the Construction Process and as and when required by the PMC/Employer shall be provided by the Contractor and the cost incurred on account of these are deemed to be included in the prices quoted in the Contract.
2. The surveying equipment and measuring instruments shall be supplied in adequate numbers and quantities, and shall be, but not limited to the following,
  - a. Permanent DGPS,
  - b. Total Stations,
  - c. Theodolites
  - d. Dumpy Level instruments,
  - e. Measuring tapes etc.
3. The Contractor shall also provide DGPS instrument with other required precision Survey Instruments as per site requirement and/or as directed by the PMC/Employer.
4. These shall include all the required materials, tools, plants, equipment, labour, etc., for performing such functions necessary and ancillary thereto for the commencement of relevant activity and during the progress of the work and till the physical completion of the work.

**33. DEWATERING**

1. The Contractor shall make provision for all pumping, dewatering, dredging or bailing out water, if necessary, irrespective of the source of water. The water so pumped out shall be discharged as per local byelaws and as approved by the PMC/Employer.

2. The Contractor shall also take all necessary precautions in diverting channels and in discharging the drained water as not to cause damage to the works, crops or any other property within/outside the plot. Excavated area for the basement/ foundation trenches shall be kept free from water while all the works below Ground level are in progress.

#### **34. SITE CLEARANCE AND SETTING OUT WORKS**

1. Site Clearance:
  - a. Dead Trees, Plants and other such vegetation within the boundaries of the construction area, are to be grubbed together with their roots and cleared away from the Site, as directed by the PMC/Employer
  - b. Certain existing Trees and other vegetation, which, in accordance with Green Building requirements are to be maintained, shall not be disturbed under any circumstances.
  - c. Adequate protection measures, whatsoever, that may be required to protect the roots, as well as the Tree or the vegetation, as a whole, shall be provided by the Contractor, until the Project is handed-over to the Employer.
  - d. The site shall be cleared of all obstruction, loose stones and materials, rubbish of all kinds of shrubs and brushwood, the roots being entirely removed. The products of the cleaning to be stacked in such a place and manner as ordered by the PMC/Employer. In case of jungle clearing, all trees not marked for preservation, jungle wood and brushwood shall be cut down and their roots entirely removed up. All wood and materials from the clearings will be property of the Employer and should be stacked as the PMC/ Employer directs. Trees shall not be cut without prior permission of the Employer. All holes or hollow, whether originally existing or produced by digging up roots, shall be carefully filled up with earth well rammed to the required density and levelled off, as may be directed.
  - e. Measures for Prevention of Fire - The Contractor shall not set fire to any standing jungle, trees, brushwood or grass without a written permit from PMC/Employer. When such permission is given, and also in all cases when destroying cut or dug up trees, brushwood grass, etc., by fire, the Contractor shall take necessary measures to prevent such fire spreading to or otherwise damaging surrounding property.
2. Bench Marks:
  - a. Construct a Permanent Bench Mark in close proximity to the Site for future use in the Project, and with a clear marking of the details such as level, datum, coordinates etc. on the same. And keep it enclosed and protected for the entire duration of the Contract.
  - b. Prior to the commencement of construction, the Contractor shall, in consultation with the PMC/Project Officer, establish several Site Datum, Benchmarks, their number depending on the extent of the Site.

#### **35. BATCHING PLANT**

Batching plant can be provided inside project site at locations approved by PMC/Employer.

**SECTION IV**  
**EMPLOYER'S(OWNER'S) REQUIREMENTS**  
**OCCUPATIONAL, HEALTH, SAFETY AND**  
**ENVIRONMENTAL**  
**PART-1**

**PART - 1****1. General****1.1. Scope**

The Employer's Requirements OHS&E details the requirements of the Employer for Safety, Health and Environmental control measures associated with the Contractor and any other agency, to be practiced on all TIDEL Park Ltd. construction sites or associated premises.

**1.2. Application of this document**

The Employer's Requirements, OHS&E Part 1 applies to all aspects of the Contractor's scope of work, including that conducted by their appointed sub- Contractor and other agencies on their behalf. There shall be no activity associated with the TIDEL Park project, which is exempted from the purview of this document. The Employer's Requirements OHS&E Part 1 is supplemented with a further 3 OHS&E Parts for ease of reference. Their individual scope and applicability is as follows;

OHS&E Part 1 is the controlling document for all Contracts and is fixed throughout the term of the project. Compliance with OHS&E Part 1 is mandatory.

OHS&E Part 2 provides Safety & Health guidance that the Contractor may choose to use unless stated as mandatory within Part 2. The contents of OHS&E Part 2 remains subject to revision by the Employer's Engineer in the event of new Legislation or changing circumstances. The information contained within Part 2 shall be used by the Employer's Engineer in assessing the sufficiency and suitability of the Contractor's management systems and performance.

OHS&E Part 3 provides Environmental guidance and procedural requirements for the project. Part 3 remains subject to periodic revision and updating.

**1.3. Purpose of this document**

The purpose of this document, the Employer's Requirements, OHS&E Part 1 is to provide Contractors and other interested parties with the mandatory requirements relating to Health, Safety and the Environment practices and performance expectations on the TIDEL Park Project.

This document:

1. Describes the OHS&E interfaces between the Employer, Employer's Engineer and the Contractor;
2. Details the processes by which the Contractor shall manage OHS&E issues while carrying out the works under the contract and;
3. Describes by reference, the practices, procedures and requirements pertaining to the TIDEL Park Project.

**1.4. TIDEL Park OHS&E Objectives**

TIDEL Park Limited has identified five principle objectives for attainment during the project. These long-term objectives shall be supported with quarterly, short and medium term

objectives to enable structured advancement in overall performance. Our Short and medium term objectives also aim to facilitate effective monitoring and measurement to identify where a directional change may be necessary. Our Long-term objectives are:

- a) To eliminate or minimize the unwanted effects of hazards and risks to personnel, members of the public and other stakeholders who may be exposed to the undertakings associated with the construction of the TIDEL Park Project
- b) Establish an effective and robust OHS&E management system that will enable Contractors to achieve international recognition and registration to the ISO 45001:2018 series.
- c) Actively contribute to Contractors development through support, encouragement, determination in control and transfer of knowledge and skills in order to make the move from traditional compliance driven management through to risk managed processes.
- d) To simplify the risk concept, to ensure a sensible approach to risk management and simplify hazard awareness training through adoption of the ALARP (As low as reasonably practicable) principles.
- e) To practice 'Best Practice' within the construction industry - Establishing a work environment that conforms to international health & safety standards and make recommendation to improve effectiveness of regulations both nationally and locally.

## 2. Reference publications

BS EN ISO 9000:2005, Quality management systems — Fundamentals and vocabulary

BS EN ISO 9001:20, Quality management systems — Requirements BSENISO14001:20, Environmental management systems —Requirements with guidance

BS EN ISO 19011:2002, Guidelines for quality and/or environmental management systems auditing

BS OHSAS 18001:2007, Occupational health and safety management system s Requirements

BS OHSAS 18002, Occupational health and safety management systems – Guidelines for the implementation of BS OHSAS 18001

ISO 45001:2018 specifies requirements for an occupational health and safety (OH&S) management system and gives guidance for its use, to enable organizations to provide safe and healthy workplaces by preventing work-related injury and ill health, as well as by proactively improving its OH&S performance

PAS 99, Specification of common management system requirements as a framework for integration

International Labour Organization:2001, Guidelines on occupational health and safety management systems — ILO-OSH 2001

Health & Safety Guidance (HSG) Health and Safety Executive Publications United Kingdom

## 3. Terms and definitions

**3.1. Acceptable risk.** Risk that has been reduced to a level that can be tolerated by the organization having regard to its legal obligations and its own OHS & Epolicy.

- 3.2. Accident.** Incident giving rise to injury, ill health or fatality
- 3.3. ALARP (As low as reasonably practicable) principles.**
- 3.4. Audit. Systematic, independent and documented process for obtaining “audit evidence” and evaluating it objectively to determine the extent to which “audit criteria” are fulfilled**
- 3.5. BOCWA.** Building and Other Construction Workers (Regular Employment and Conditions of Service) Act, 1996
- 3.6. BOCWR.** Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Central Rules, 1998
- 3.7. Chief Safety Expert.** An officer nominated by TIDEL who is the overall responsible for monitoring all OHS&E functions prescribed in this document.
- 3.8. TIDEL.** TIDEL Park Limited
- 3.9. Competent person.** Person with the appropriate combination of skill, knowledge, qualifications and experience
- 3.10. Continual improvement.** Recurring process of enhancing the OHS&E management system in order to achieve improvements in overall OHS&E performance consistent with the organization’s OHS & E policy
- 3.11. Corrective action.** Action to eliminate the cause of a detected nonconformity or other undesirable situation
- 3.12. Design Risk Assessments.** Used to record the actions of designers when reducing risks in construction and for future repairs and maintenance issues.
- 3.13. Employer.** TIDEL Park Limited (TIDEL).
- 3.14. Hazard.** Source, situation, or act with a potential for harm in terms of human injury or ill health, or a combination of these
- 3.15. Hazard identification.** Process of recognizing that a hazard exists and defining its characteristics
- 3.16. Health surveillance.** Monitoring health of employees to detect signs or symptoms of work related ill health so that steps can be taken to eliminate, or reduce the probability of, further harm
- 3.17. Ill health.** Identifiable, adverse physical or mental condition arising from and/or made worse by a work activity and/or work-related situation
- 3.18. Incident.** Work-related event(s) in which an injury or ill health (regardless of severity) or fatality occurred, or could have occurred. An accident is an incident which has given rise to injury, ill-health or fatality. An incident where no injury, ill health, or fatality occurs may also be referred to as a “near-miss”, or “dangerous occurrence”.
- 3.19. Interested party.** Person or group, inside or outside the workplace, concerned with or affected by the OHS&E performance of an organization
- 3.20. Nonconformity.** On-fulfilment of a requirement; A nonconformity can be any deviation from: relevant work standards, practices, procedures, legal requirements, etc. or OHS&E management system requirements. A non conformity can be any deviation from: — relevant work standards, practices, procedures, legal requirements, etc. — OHS&E management system criteria.
- 3.21. OHS&E management system.** Part of an organization’s management system used



to develop and implement its OHS&E policy and manage its OHS&E risks. A management system is a set of interrelated elements used to establish policy and objectives and to achieve those objectives. A management system includes organizational structure, planning activities (including for example, risk assessment and the setting of objectives), responsibilities, practices, procedures, processes and resources.

- 3.22. OHS&E objective.** OHS&E goal, in terms of OHS&E performance that an organization sets itself to achieve.
- 3.23. OHS&E performance.** Measurable results of an organization's management of its OHS&E risks
- 3.24. OHS&E policy.** Overall intentions and direction of an organization related to its OHS&E performance as formally expressed by top management
- 3.25. Preventive action.** Action to eliminate the cause of a potential non conformity or other undesirable potential situation
- 3.26. Procedure.** Specified way to carry out an activity or a process
- 3.27. Record.** Document stating results achieved or providing evidence of activities performed
- 3.28. Risk.** Combination of the likelihood of an occurrence of a hazardous event or exposure(s) and the severity of injury or ill health that can because by the event or exposure(s)
- 3.29. Risk assessment.** Process of evaluating the risk(s) arising from a hazard(s), taking into account the adequacy of any existing controls, and deciding whether or not the risk(s) is acceptable
- 3.30. Risk control.** Selection and application of suitable measures to reduce risk
- 3.31. Shall.** Indicates a mandatory requirement within this document
- 3.32. Stakeholders.** Those with a vested interest in an organization's achievements that includes, but is not limited to, internal and "outsourced" employees, customers, suppliers, partners, employees, distributors, investors, insurers, shareholders, owners, government and regulators.
- 3.33. Status review.** Formal evaluation of the OHS&E management system
- 3.34. Top management.** Person or group of people who direct and control an organization at the highest level
- 3.35. Worker representative.** Representative of employee occupational health and safety

#### **4. OHS&E management system requirements**

##### **4.1. General requirement**

**4.1.1.** The Contractor shall define and document the scope of its Occupational Safety Health and Environmental (OHS&E) management system to meet legal requirements and the requirements of TIDEL Park Limited as stated within this document.

**4.1.2.** The Contractor's OHS&E management system shall determine how the organisation shall document, implement, maintain and continually improve upon

performance in accordance with the requirements of the International OHSAS Standard to which the Employer is committed.

#### **4.2. TIDEL OHS&E Policy Statement of Intent**

TIDEL Park Limited consider that health, safety and environmental management is of equal importance in comparison to any other aspect of business management and as such is committed to promoting high standards of safety, health, environment and welfare on all of their sites and premises. To achieve this TIDEL Park shall:

- Constantly work towards improving the safety culture at all levels.
- Ensure compliance with all relevant legal duties in respect of health and safety at work Legislation.
- Provide adequate resources for planning and controlling working conditions and safe Systems of work.
- Work with our Contractors and suppliers to improve their safety performance, by Measuring and monitoring their performance.
- Responsibilities and performance requirements for Safety, Health and the Environment are available on the TIDEL Park Limited website. In summary:-
- All Contractors, employees, sub-Contractors, consultants, suppliers and visitors have a duty to play an active role in achieving our objectives through compliance with their Legal obligations and this Safety Policy.
- Participation and consultation are vital aspects of this Policy and to the achievement of our objectives. Contractors and Staff are encouraged and expected to:
- Discuss safety, health and welfare matters with their managers, and company Safety, Health & Environmental Representatives who will offer or obtain further expert advice, where necessary.
- Co-operate at all times; contribute good ideas and improvements; report defects and shortfalls.

The correction of any breach of statutory provision or TIDEL Park Limited requirements on health and safety shall take priority. Should appropriate action not be taken to meet the required standards, this will be taken seriously and may lead to disciplinary action being taken.

This Policy Statement shall be displayed prominently on all TIDEL Park Ltd sites and offices and will be kept under review to ensure its relevance.

The Managing Director  
Tidel Park Ltd

#### **4.3. Planning**

##### **4.3.1. Hazard identification, risk assessment and determining controls**

- 4.3.1.1. The Contractor shall submit a procedure detailing the process in place for the identification of Hazards and Risks and the determination of control measures including the relevant standards as per clause 4.4.4.1.2. The Procedure shall incorporate the Employer's Requirements within this and other applicable OHS&E Parts.

#### 4.3.1.2. Management of Change

All temporary and permanent changes to organisational, personnel, systems, procedures, equipment, products, materials or substances shall be evaluated by the Contractor and managed to ensure that health, safety and environmental risks arising from these changes remain at an acceptable level. Changes made by the Contractor are subject to submittal and notice of no objection by the Employer's Engineer prior to adopting change.

#### 4.3.1.3. Risk Register & Hazard Log

The Contractor's Construction Health and safety Plan shall contain a detailed 'Risk Register' and 'Hazard Log' specific to the project. The register and log shall be assessed against the TIDEL OHS&E requirements Part2.

The Hazard Log shall identify future method statement, risk assessment and operational procedures pertaining to specific equipment and operations in relation risk and local environmental constraints. Construction phase OHS&E Plans shall not be accepted without a fully completed Hazard Log and Risk Register.

#### 4.3.1.4. Method Statements and Lift Plan

- Method statements are to be submitted to the Employer's Engineer a minimum of 28 days prior to task commencement to ensure sufficient time is available for review and notice of no objection.
- Method statements shall contain the information requirements as prescript within the TIDEL OHS&E Part2.
- Method statements shall incorporate the control measures within the process methodology as identified within the risk assessment.
- A copy of the relevant method statement for the activity being undertaken shall be available on site for reference by all site management and supervisors.
- Lift Plan are to be submitted to the Employer's Engineer a minimum of 28 days prior to task commencement to ensure sufficient time is available for review and notice of no objection.
- Lift Plan shall contain the information requirements as prescript within the TIDEL OHS&E Part 2

#### 4.3.1.5. Risk Assessment production & submittal

- Risk assessments shall contain as a minimum, the information as specified within the TIDEL OHS&E Part 2. The Contractor may choose to use their own format however the risk tolerances, probability and consequences must be included.
- Risk assessments shall be produced and submitted to the Employer a minimum of 28 days prior to task commencement for notice of no objection. Risk assessments may be submitted independently or as part of a Method Statement.
- Generic risk assessments other than routine activities of low risk shall not be

accepted by the Employer.

- Risk assessments shall be regularly reviewed to ensure they remain suitable and sufficient. Risk assessment reviews shall be undertaken where an incident has occurred and when a change in location may introduce additional risks from construction activities.
- Substances hazardous to health shall be subject to assessment by the Contractor. Where Hazardous substances are identified for use within a process the assessment and determining controls shall be included within the relative method statement.

#### 4.3.1.6. Design Risk Assessment

- Design Risk Assessments shall be submitted to the Employer's Engineer for granting of no objection. Design risk assessments shall accompany all drawing submittals for operations involving;
  - a. Temporary works,
  - b. False-work
  - c. Heavy lifting equipment.
- Drawings shall not be accepted by the Employers engineer without accompanying design risk assessment.

#### 4.3.2. Legal and other requirements

4.3.2.1. Contractor shall comply with all legal obligations and the requirements of TIDEL Park Limited as contained herein.

#### 4.3.2.2. Indian statutory requirements

The Contractor shall abide by all national, state and local bye-laws. It is the duty of the Contractor to ensure that all sub-Contractors appointed also comply with their legal obligations as listed below but not limited to:

- i. Indian Electricity Act 2003 and Rules 1956
- ii. Tamil Nadu Building and other construction Workers (regulations of Employment and conditions of service) Rules, 2006.
- iii. National Building Code, 2005
- iv. Factories Act, 1948,
- v. The Tamil Nadu Factories Rules, 1950
- vi. Motor Vehicles Act as amended in 1994, The Central Motor Vehicles Rules, 1989.
- vii. Indian Road Congress Code IRC: SP: 55-2001 'Guidelines on Safety In Road Construction Zones.
- viii. The Petroleum Act, 1934 and Rules 1976
- ix. Gas Cylinder Rules, 2003
- x. Indian Explosives Act. 1884, along with the Explosives substance Act 1908 and the explosives Rules 1983
- xi. The (Indian) Boilers Act, 1923
- xii. The Public Liability Insurance Act 1991 and Rules 1991
- xiii. Minimum Wages Act, 1948 and Rules 1950
- xiv. Contract Labour Act, 1970 and Rules 1971
- xv. Child Labour (Prohibitions & Regulations) Act, 1986 and Rules 1950

- xvi. Environment Protection Act, 1986 and Rules 1986
- xvii. Air (Prevention and control of Pollution) Act, 1981
- xviii. Water (Prevention and Control of Pollution) Act, 1974
- xix. The Noise Pollution (Regulation & Control) Rules, 2000
- xx. Notification on Control of Noise from Diesel Generator (DG) sets, 2002
- xxi. Recycled Plastic Usage Rules, 1998
- xxii. Notification, Central Ground Water Board, Act January 1997
- xxiii. Manufacture, Storage & Import of Hazardous Chemicals Rules, 1989
- xxiv. The Hazardous Waste (Management & Handling) Rules, 1989
- xxv. Hazardous Waste Management Rules 1989 (as amended in 1999)
- xxvi. Batteries (Management and Handling) Rules
- xxvii. Fly ash utilization notification, Sept 1999 as amended in August 2003
- xxviii. Workman Compensation Act, 1923 along with allied Rules

#### 4.3.2.3. International Standards, Guidelines & ISO Certifications

- If the requirements stated in this document are in conflict or inconsistent with the requirements of applicable laws or the Employer's Requirements for the TIDEL PARK project, the more stringent requirements shall apply.
- The works shall be undertaken in accordance with the applicable international guidelines, standards and specifications on OHS&E and every Contractor shall actively pursue the achievement of:

ISO 45001:2018 Occupational health and safety (OH&S)  
management system  
ISO 14001:20 Environmental  
management systems

- The process of international certification to ISO 45001:2018 and ISO 14001:20 standard shall commence immediately after the award of Contract through appointment of ISO accrediting body for obtaining the certification. Should this not be undertaken by the Contractor within 3 months of the Contract award, the Employer's Engineer shall appoint at the Contractor's cost.
- Should the Contractor already possess such certification, the scope of the TIDEL PARK project must be included on the Contractor's certification within 1 year of Contract commencement and proof of such attainment demonstrated to TIDEL Park Limited.

#### 4.3.3. Objectives and programme(s)

- 4.3.3.1. The Contractor shall maintain procedures to establish detailed OHS&E objectives and performance criteria. Such objectives and performance criteria shall be developed to incorporate the TIDEL Park policy and strategic OHS&E objectives. The Contractor's objectives shall be quantified, wherever practicable, and identified with defined timescales. The Contractor is required to submit for notice of no objection their procedure and objectives as per clause 4.4.4.1 of this control document.

### 4.4. Implementation and operation

#### 4.4.1. Resources, roles, responsibility, accountability and authority

- The Contractor shall detail within the Construction Health, Safety and Environmental Plan the planned roles and resources allocated for the TIDEL

project. In addition to the staffing arrangements the Contractor shall prescribe the responsibilities specific to role, accountability and the authority under which they operate.

- Safety, health & environmental resources shall be provided by the Contractor as per the Contract value in table1.

**Table 1 Mandatory Contractor OHS&E Management Resource Requirement**

	1	2	3	4	5	6
Contract Value in (Cr.)	Chief OHS&E Manager(Key staff)	Senior OHS&E Manager	Junior OHS&E Manager	Safety Steward	Electric al Manager	Junior Electrical Manager
Up to 2	-	-	1	Refer note 1	-	1
Up to 10	-	1	Refer note 1		1	Refer note 2
Up to 25	1	Refer note 1			1	
Up to 100	1				1	
Up to 250	1				1	
More than 250	1				1	

	7	8	9	11
Contract Value in (Cr.)	Occupational Health officer with Necessary Nursing Assistants (Refer Note 3)	Environmental Manager	Housekeeping & barricade maintenance	Labour Welfare Officer
Up to 2	-	-	Refer to Note 4	-
Up to 10	1 (PT)	1		1
Up to 25	1(PT)	1		1
Up to 100	1(PT)	1		1
Up to 250	2(FT)	1		1 with support staff
More than 250	2(FT)	1 with support staff		1 with support staff

Note 1	Qualified and trained OHS&E Professionals as per Table 2 with required support staff to be deployed at each work site at each shift. Qualifications of appointed OHS&E personnel shall be in accordance with section 4.4.2 Competence, Awareness and Training, within this document.
Note 2	Qualified and trained Electrical Engineers/supervisors to be deployed at each worksite for each shift.
Note 3	(PT) means Part-Time and (FT) means Full-time.
Note 4	One Housekeeping Manager/ Barricade Manager supported by required supervisors and workmen necessary to maintain a clean and tidy site or yard.

- **Responsibility**

- The Project Director or Project Manager of the Contractor is responsible and accountable for compliance with the conditions and clauses within this document.
- The Project Director or Project Manager is responsible to ensure that the necessary resources are allocated and made available to meet the requirements as laid out within this document and other referenced materials to include Legal Requirements(4.3.2).
- For all works carried out by the Contractor and appointed sub-Contractor, the responsibility for ensuring OHS&E resources remains with the main Contractor. Activities undertaken by the Contractor's Sub-Contractors shall be monitored by the Contractor at all times to ensure compliance with agreed safe systems of working.
- All Contractor's OHS&E personnel shall report to the Chief OHS&E Manager shall report directly to the Project Director or Project Manager or Corporate Safety manager of the Contractor's organisation. This shall be reflected in the Contractor's organisation charts within the OHS&E plan and Quality Management Plan.
- The Employer shall monitor adherence to the provisions of Table 1. Where deviation is evident this shall be recorded as anon-conformance.
- The Contractor shall provide all OHS&E personnel with such facilities, equipment and information that are necessary to enable them to dispatch their duties effectively.
- The Contractor's OHS&E Managers are responsible for ensuring that reports on the performance of the OHS&E management system are presented to top management for review and used as a basis for improvement of the OHS&E management system.
- The Contractor's OHS&E Managers are responsible for independently monitoring the operations of the Contractor, where deficiencies are identified they are responsible to report their findings immediately to the Site Engineer in charge who then must take action as directed.
- Accountability
- In cases where the Contractor fails to provide the minimum required manpower as illustrated in Table 1, or fails to fill vacancies created within 30 days, the same may be provided by the Employer's Engineer at the Contractor's cost. Any administrative expenses involved in providing the same



for example, vacancy advertisements or recruitment consultant charges, shall also be at the cost of Contractor.

- No OHS&E personnel shall be permitted to do any work which is unconnected to, inconsistent with or detrimental to the performance of the OHS&E duties.
- Supervisors must ensure that the employees under their direct supervision are working in compliance with the approved safe systems of working.
- Authority
- The Contractor's Safety Managers, Safety Advisors and Officers authority shall be stated within the Construction Health and Safety Plan and the authority level must be communicated to all Contractor's Staff including sub-Contractors.
- The Contractor's Safety Managers, Safety Advisors and Officers shall have the authority as assigned by the Project Director or Project Manager to suspend works where deviation from an approved method of working occurs that presents a risk of injury, equipment or property damage.
- The Employer's Engineer shall have the right to stop the work at his/her sole discretion, if in his opinion the work is being carried out in such a way that a risk of injury, property and or equipment damage may exist. The Contractor shall not proceed with the work until remedial works have been completed with under the direction and satisfaction of the Employer. Should the Contractor continue to work without implementing the Employer's Engineer's instruction, clause 4.4.2.2 shall be applied to the individual responsible for the decision to proceed.
- The Contractor shall not be entitled to any damages or compensation for stoppage of work, due to safety reasons. The period of such stoppages of work shall not be taken as an extension of time for completion of the facilities and will not be the ground for waiver of levy of liquidated damages.

#### **4.4.2. Competence, training and awareness**

4.4.2.1. The Contractor shall ensure that the recruitment, selection and placement processes shall be in place to ensure that personnel are qualified, competent, and physically fit for assigned tasks. The Contractor shall produce a procedure that shall be made available to the Employer's Engineer for notice of no objection as per Clause 4.4.4.1.2 of this document. The procedure shall define the processes in place to ensure competence.

4.4.2.2. The Contractor's attention is drawn to Part I General Conditions Clause 6.9 (d), whereby any person employed thereon, who in the opinion of the Employer's Representative, misconducts himself or is incompetent or negligent or fails to conform with any particular provisions with regard to safety, health or environment which is set out in the Contractor's OHS&E Plan or a requirement of the Contract, or persists in any conduct which is prejudicial to safety or health, shall be removed from site immediately, and such persons shall not be employed again upon the Works. The decision of the Employer's Engineer in this regard shall be final.

4.4.2.3. Contractor OHS&E personnel-Notice of No Objection from the Employer's Engineer

- The name, educational qualifications and work experience for all OHS&E

persons intended for a Contractor's OHS&E role shall be submitted to the Employer's Engineer for notice prior to employment. Only upon notice of no objection by the Employer's Engineer shall OHS&E personnel be authorised to work on a TIDEL site. No objection certificate from the previous company to be attached.

- Age Limit: Shall not exceeding 55 years on the date of submission of proposal.
- The Contractor shall appoint the required OHS&E personnel in accordance with the qualifications and experience as listed in Table2.

**Table 2 OHS & E Personnel Qualifications & Experience**

Item	Designation	Qualification	Experience (Years)
1	OHS&E Manager	The OHS&E Manager shall be qualified in any of the following degrees/diplomas:  Post Graduate Diploma in Industrial Safety & Environmental Management (PGDISEM)  M.E. in Industrial Safety from NIT,  B.E. in Fire and Safety Engg.  B.E. with advanced Safety Management Diploma  B.E / B.Arch., with one year <u>Full Time</u> advanced Safety diploma  B.E/B.Tech full time Degree / Diploma in Industrial Safety.	7
2	Safety Steward	Any basic qualification with any OHS&E related certificate courses.	3 Years
3	Electrical Manager	Degree in Electrical Engineering + Govt. Recognized Electrical C Licence holder	4Years
4	Occupational Health Officer	MBBS with Govt. recognized degree/diploma in Industrial/ occupational health	1 Year
5	Housekeeping & Barrier Manager	Any Diploma in Engineering	1 Year

Note: In some extraordinary cases, where the candidate had earlier worked in TIDEL projects, they can be considered for the following posts:

- Senior OHS&E Manager
- Junior OHS&E Manager

Depending upon the qualification and number of years of experience on a case to case basis even if they do not possess the prescribed qualification as listed above.

- Whereas potential candidate has previously worked in a Multi-storied / High-rise building construction environment and does not possess the qualifications and or the necessary experience as listed in Table 2 for the particular role, the Employer's Engineer may upon a successful interview of the candidate grant a waiver subject to successful completion of a probation period of 3 months.
- In order to effectively interact on labour welfare matters with the Employer's Engineer and the statutory authorities enforcing the labour welfare legislations every Contractor shall employ a full time Labour Welfare Officer duly qualified and experienced as per clause
- **OHS&E Induction Training**
  - I. The Contractor shall ensure that all personnel working at the site receive an induction OHS&E training explaining the nature of the work, reporting & communication routes the hazards that may be encountered during the site work and the particular hazards attached to their own function within the operation. The training shall cover as a minimum the contents as directed within OHS&E Part 2.
  - II. Records of all inductions shall be maintained by the Contractor and be made available for inspection by the Employer upon request.
  - III. The Contractor shall provide their workforce and management staff with an OHS&E induction Handbook containing the information as per the induction training.
  - IV. A condensed induction shall be given by the Contractor to all visitors. The induction briefing shall include the risk and hazards associated with the particular site and the operations being conducted.
  - V. All personnel shall be issued a temporary ID upon the completion of the Contractor's' induction. The temporary ID shall be signed by the Human Resource Manager or appointed representative and limited to a 2 week validity period at which time the temporary ID shall be replaced with a permanent ID including photograph
  - VI. Individuals found on site by the Employer's Engineer without-dated temporary ID cards shall be removed from site

#### **4.2.2.4 OHS&E Training**

- The Contractor shall assess the training requirements for all the employees, plan and initiate a training program to fulfil the training needs assessment. The assessment of training needs shall incorporate all levels of staff including Sub-Contractor's against an individual's role, responsibility, ability, language skill and risk.
- The Contractor shall produce a 'Training Implementation Plan' to incorporate the findings of the needs assessment.
- The training needs assessment together with Implementation Plan shall be

submitted to the Employer's Engineer for notice of no objection within 4 weeks of commencement. The Employer's Engineer shall evaluate the assessment and plan against the base line training matrix contained within OHS&E Part2.

- Records of all training conducted shall be maintained and made available for inspection by the Employer's Engineer upon request.
- Should the Contractor fail to provide the training identified within the Contractor's assessment, implementation plan and the Employer's Engineer's Training matrix within the agreed timescales, this shall be reflected in the potential scores awarded within the monthly audit report.
- Specific training with regard to the provisions of the Construction Safety Plan, and associated operational and system procedures shall be conducted by the Contractor for all persons with supervision responsibilities. Records of training including duration shall be maintained.
- Contractors and sub-contractors are responsible for providing OHS&E training through TIDEL approved agency shall conduct training as per the training Implementation Plan to all Staff and workers and for retention of records of such activities for inspection by the Employer's Engineer.
- The Profile of the External OHS&E Agency (Training, Inspection and Testing) ISO certifications, course details, the name, educational qualifications and training experience for of the trainers are to be submitted to the Employer/Employer's Engineer a minimum 28 days before prior to appointment of the agency. Only upon notice of no objection by the Employer /Employer's Engineer shall be authorised to deliver training on TIDEL sites.
- The External OHS&E Agency shall have authorized to provide their service maximum of two contract packages.

#### **4.4.3. Communication, participation and consultation**

##### **4.4.3.1. Communication**

- The Contractor shall produce a 'High Quality' quarterly newsletter on a rotational basis with other Contractors. Rotation shall be announced within the Employer's Engineer's OHS&E Committee meetings.
- All Contractors including the Employer's Engineer shall provide input into the rotational Contractor for the newsletter content such as details of accidents, incidents and near misses together with any lessons learned; specific safety initiatives; internal competitions and workforce awards etc.
- The Employer's Engineer shall be issued the draft newsletter for review prior to the Contractor's publishing.
- The OHS&E Newsletters shall publicise all Contractor's OHS&E performances over the previous 3 months in relation to OHS&E Audits and shall form the basis for the Employer's Engineer's Awards programme. Results of audits shall be provided by the Employer's Engineer for inclusion.
- The quarterly newsletters shall be issued to all interested parties and be promulgated at site level. Where language barriers exists the contents of the newsletters shall be communicated by the Workforce Representative to ensure understanding.
- At site level the Contractor shall erect pertinent awareness signage and posters. Posters shall be changed on a monthly basis to maintain impact.
- Poster campaigns shall be discussed and agreed at the Employer's Engineer's Committee Meeting.
- Informational posters, banners etc. shall be provided both in Tamil and

English.

- Toolbox talks or team briefings shall be carried out daily by the Contractor and correspond to the works activities being undertaken or to communicate a specific awareness initiative. Toolbox talks shall not replace professional training.
- Records of all toolbox talks undertaken together with the date, topic, participant's names and signatures shall be maintained and made available for inspection by the Employer's Engineer.
- Method statement and risk assessment briefings shall be carried out prior to the commencement of a new task and or when a change to the method of working arises. Records of all such briefings shall be maintained by the Contractor.
- Visitor information signage shall be posted at site entrances detailing where to report and contact information. Note: visitors shall be accompanied at all times by site security where office locations require walking through operational areas.
- Public Liaison
- Public informational signage and Contractor contact information shall be posted externally to the site.
- The Contractor shall appoint an individual as a Public liaison Officer to communicate directly with members of the public regarding forthcoming operations, what to expect, noise expectancy, duration of operation etc.

#### 4.4.3.2. Participation and consultation

- The Contractor shall establish a Safety Committee within 4 weeks of commencement that shall be chaired by the Contractor's Project Director.
- The Contractor shall notify the Employer's Engineer of the establishment of the Committee together with the committee members' names and designation. The Contractor's Chief Safety Manager, Senior Safety Manager, Plant & procurement Manager and Human Resources Manager shall form the minimum committee members. Site based personnel shall be represented within the Committee by the attendance of Site Manager(s) and the Workforce OHS&E Representative.
- The Employer's Engineer shall be invited to attend the Contractor's Safety Committee meetings.
- The Contractor's OHS&E Committee shall meet on a monthly basis throughout the duration of the Contract.
- The Committee shall review the previous month's performance, to include, inspections and audits undertaken, accidents and incidents and any concerns or complaints that have been raised. Short term objectives and targets for improvement shall be set for completion by the next scheduled Committee meeting.
- The Safety committee shall undertake a formal site inspection to be scheduled on a 2 monthly basis. The inspection shall review progress regarding the achievement of short term targets. The Committee shall produce a report stating progress made together with any corrective actions required and issue to the Employer's Engineer within 7 days following the Inspection.
- Minutes of the Committee meeting shall be issued within 2 days and promulgated to all members including the Employer's Engineer. The minutes of meeting shall also be posted on all sites within the workforce area. The minutes intended for site communication shall be in both Tamil and English.

- Employer's Engineer OHS&E Committee
- A Safety Health and Environmental Committee shall be established by the Employer's Engineer and shall sit every 3 months throughout the project period. All Contractors shall be required to attend the quarterly meetings who shall be represented by their General Manager and Chief Safety Manager.
- The Committee shall review previous performances project wide and set short and medium term objectives and targets for achievement within the next reporting period.
- The Employer's Engineer reserves the right to call an Emergency Meeting of the Committee members in the event of a serious incident that requires immediate change to the operational methods of working.
- Minutes of the Employer's Engineers OHS&E Committee shall be promulgated to all Contractor's within 3 days.

#### 4.4.3.3. Work force Representation

- All workers shall have access to a Workforce OHS&E Representative who is responsible to communicate directly with the labour force with regard to safety and health. The representative's name and contact number shall be posted on all sites externally to the site office.
- The Workforce OHS&E Representative shall be made a member of the OHS&E Committee and attend all meetings.
- The OHS&E Representative shall meet the labour force on a monthly basis to discuss health, welfare, safety initiatives and or concerns the workforce may have. Minutes are to be produced by the Representative and issued formally within 2 days after the meeting date to the Contractor's Project Manager, General Manager and Employer's Engineer.
- A lockable site suggestion box to which only the workforce OHS&E Representative shall have access shall be installed on all sites and within any labour accommodation camps. The suggestion box shall be located independent from any offices, in a public area and protected from bad weather. The OHS&E Representative shall inform the workforce that the purpose of the suggestion box is to provide a means of participation, communicating ideas and initiatives and also for raising concerns without fear of reprisal.
- The contents of all suggestion boxes shall be collected and collated on a weekly basis. Where concerns or complaints regarding the standards of health, safety or welfare have been reported these shall be immediately reported to the Chief OHS&E Manager and Project Manager who shall investigate the concern(s). Records of such investigations and resultant outcomes shall be maintained.
- Ideas, suggestions and concerns raised by the workforce during the OHS&E representative's on site monthly meetings shall form an agenda item within the Contractor's OHS&E Committee meeting.
- Where an idea or specific suggestion is subsequently adopted for use by the Contractor's OHS&E Committee, the individual shall receive an OHS&E award as determined by the Contractor.
- Where Employee awards are issued this shall be notified to the Employer's Engineer to ensure inclusion within the Quarterly Newsletter.

#### 4.4.3.4. Contractor Awards

The Employer shall recognize the effort, participation and commitment demonstrated by the Contractor by nominating awards. The award type shall be at the discretion of the Employer.

#### **4.4.4 Documentation**

##### **4.4.4.1 Management System procedures**

- The Contractor is required to submit for notice of no objection, the organisation's top tier Management System Procedures as listed in Table 3 that shall be adopted for use on the TIDEL PARK project.
- System procedures shall be submitted to the Employer's Engineer within 4 weeks of commencement.
- Construction works shall not commence until such time as a notice of no objection has been received; applicable to all management system procedures as listed in Table 3. Should the Contractor commence operations on site without notice, the Employer's Engineer shall award a 'Zero' audit score for every month of non-compliance with this clause.
- The Employer's Engineer shall evaluate the suitability of the Contractor's system procedures against the ISO 45001:2018 and ISO 14001:20 standards.
- The submitted procedures shall be individually identified with a unique reference and detail in sequence the scope, purpose, referenced material and procedure processes.
- Where such procedures as listed in Table 3 exist within other areas of the Contractor's organisational management systems such as quality management, these shall not be subject to replication if the procedure makes specific reference to Health, Safety and Environmental control.
- Compliance standards against the Contractor's management system procedures shall be subject to audit by the Employer's Engineer.

**Table 3 OHS&E Management System Procedures**

Hazard identification, risk assessment and determining controls	Communication, participation & consultation	Environmental Impact Aspect Assessment	Objectives and programme(s)
Training, awareness and competence	Implementation and operation	Accident & Incident Investigation	Legal requirements
Documentation	Monitoring & Measurement	Emergency Preparedness	Change control
Procurement	Record keeping	Audit	Management review

#### **4.4.5 Control of documents**

4.4.5.1 All plans, procedures and method statements shall be controlled and subject to review and formal approval by the Contractor's Project Director prior to issue to the Employer's Engineer.

4.4.5.2 All documents subject to review by the Employer's Engineer shall be signed by Bidder's Stamp & Initials



the Contractor's Project Director and issued formally.

4.4.5.3 Documents shall be issued as per the Employer's Engineer's requirements regarding Quality Management.

4.4.5.4 OHS&E Documents shall be issued, maintained, traceable and available for retrieval pursuant to the Contractor's ISO accredited Quality Management System.

#### **4.4.6 Operational control**

4.4.6.1 Operational control shall be maintained through the implementation of the provisions stated within the Contractor's site specific Construction Health Safety and Environmental Plans, the contents of which are outlined in Safety, Health and Environmental Parts 2 and 3 and Part4 to which the Contractor shall comply.

##### **4.4.6.2 Construction Phase Health & Safety Plan**

- The Contractor shall produce a Contract specific Construction Health & Safety Plan(CHSP) and submit to the Employer's Engineer within 28 days of commencement.
- The Construction Health and Safety Plan shall contain the informational requirements as per the CHSP contents as prescript within the TIDEL OHS&E Part 2, Safety Plan contents.
- The CHSP shall be assessed by the Employer's Engineer against the
- provisions as stated within OHS&E Part2. Where deficiencies exist to an extent where an objection is raised, construction activities shall be suspended until such time as the deficiencies are subject to corrective action, re-submittal and notice of no objection by the Employer.
- Delays incurred as a result of the Contractor failing to achieve a 'No objection' status from failing to submit within the specified timescale or non- compliance with OHS&E Part 2 shall be entirely at the Contractor's risk and cost.
- The Contractor shall undertake a monthly review of the CHSP. The review shall be recorded and the Employer's Engineer notified of any updates.

##### **4.4.6.3 Construction Phase Site Environmental Plan**

- The Contractor shall produce a Contract specific Site Environmental Plan (SEP) and submit to the Employer's Engineer within 28 days of commencement
- The Site Environmental Plan (SEP) shall contain the informational requirements as per the contents as prescript within the TIDEL Environmental Management Arrangements Part 3, Environmental Plan contents.
- The SEP shall be assessed by the Employer's Engineer against the provisions as stated within the Environmental Management Arrangements Part 3. Where deficiencies exist to an extent where an objection is raised, construction activities shall be suspended until such time as the deficiencies are subject to corrective action, re-submittal and notice of no objection by the Employer's Engineer.
- Delays incurred as a result of the Contractor failing to achieve a 'No objection' status from failing to submit within the specified timescale or non- compliance with Environmental Management Arrangements Part 3 shall be entirely at the

Contractor's risk and cost.

- The Contractor shall undertake a monthly review of the SEP. The review shall be recorded and the Employer's Engineer notified of any updates.

#### 4.4.6.4 Operational procedures

- The Contractor shall identify within the Hazard Log and Risk Register the operational control procedures that shall be applicable for the TIDEL PARK project under their individual scope of works.
- Operational procedures shall be submitted for review to the Employer's Engineer for notice of no objection together with the Construction Site Safety Plan within 4 weeks of commencement.
- The operational procedures shall be evaluated by the Employer's Engineer against the International Labour Organisation, European Norms and British Standards where an equivalent Indian Standard does not exist.
- Construction works shall not commence until such time as a notice of no objection has been received; applicable to all operational procedures as identified within Table 4 and the Contractor's Hazard Log & Risk Register. Should the Contractor commence operations on site without notice, the Employer's Engineer shall award a 'Zero' audit score for every month of non-compliance with this clause.
- The submitted procedures shall be individually identified with a unique reference and detail in sequence the scope, purpose, referenced material and procedure processes.
- In the event that the Contractor is unable to comply with the 28 day timeframe for submittal of the minimum operational procedures as detailed within Table 4, the Contractor shall assign an individual identification reference for the outstanding procedure within the Construction Health, Safety & Environmental Plan
- Together with the statement 'Under process'. The 'Under Process' procedure shall be required to be submitted for notice of no objection a minimum of 28 days prior to commencement of any activity that involves the application of the procedure.

**Table 4 Operational Procedures**

Lifting Operations & Lifting Equipment	Plant & Equipment	Occupational Health provisions	Emergency Medical Facilities & First Aid
Personal Protective Equipment	Permit to Work Systems	Site Electricity & Distribution	Welding & Cutting operations
Incident Investigation	Traffic Management	Working at Height	Hazardous Substances
Site Security	Fire Safety	Manual Handling	Site Set-up
Abrasive Wheels	Public Interface	Noise and Vibration	Welfare Arrangements

4.4.6.4.8 The Contractor shall adopt the following colour code scheme across all TIDEL Sites to ensure efficient recognition of relevant personnel.

Safety Helmet Colour with Logo	Designation
White	TIDEL Staff and Employer's Engineer
Violet	Contractor's Engineers & Supervisors
Blue	Sub-Contractor's Engineers & Supervisors
Red	All Electricians
Green	Safety personnel
Orange	Security Guards & Traffic Marshals
Yellow	General Workforce
White (With VISITOR Sticker)	Visitors

#### 4.4.7 Emergency preparedness and response

##### 4.4.7.1 Emergency Response Plan

- The Contractor shall prepare a project specific Emergency Plan and submit to the Employer's Engineer for notice of no objection. The Emergency Plan shall be submitted within 4 weeks of contract Commencement.
- The plan must identify the potential for emergencies and the provisions for responding to such emergencies, particular to their environment and location. The Emergency planning arrangements shall be assessed as per the provisions in OHS&E Part 2 for suitability.
- The Contractor shall ensure that all persons including sub-Contractors on site are aware of the emergency procedure to follow in the event of an emergency. Awareness training shall commence at induction and thereafter through refresher training such as toolbox talks and monthly emergency drills. Records of refresher training and emergency drills shall be maintained.
- Site signage shall be erected and detail the emergency process to follow and include emergency telephone numbers, fire, ambulance, police, nearest hospital etc.
- Arrangements shall be made by the Contractor for casualty evacuation and emergency medical treatment. The Contractor shall enter into an agreement with a hospital to provide ambulance services. Alternatively the Contractor shall provide a fully equipped ambulance on-site that shall be manned by a paramedic. This provision shall be subject to the Employer's Engineers audit.

#### 4.5 Checking

##### 4.5.1. Performance measurement and monitoring

4.5.1.1. The Contractor shall submit a Monthly OHS&E Progress Report no later than 7th of each month to the Employer's Engineer . The Report shall contain the minimum information specified within OHS&E Part 2. The report shall contain text, tables and colour photographs.

4.5.1.2. Site Inspection

4.5.1.3. Independent of the plant and equipment inspection, testing and maintenance

regimes that shall be stated within the Contractor's Plant and Equipment

Procedures, the Contractor shall carry out site monitoring exercises on a daily and weekly basis.

- 4.5.1.4. The Contractor shall ensure that all monitoring equipment is calibrated as per the manufactures requirements. The Employer's Engineer shall be provided with test certificates for such equipment
- 4.5.1.5. Site Engineers shall be required to participate in daily internal OHS&E inspections to facilitate prompt communication and rectification of minor deviations. Records of such inspections and rectification needs shall be maintained at site level and made available for review by the Employer's Engineer other interested parties.
- 4.5.1.6. Formal site inspection reports shall be produced on a weekly basis by the Contractor's OHS&E personnel for each site and submitted to the Project
- 4.5.1.7. Director or project manager and copied to the Contractor's corporate safety manager. The corporate Safety Manager shall conduct site inspection on monthly basis and report shall be submitted to the Employer's Engineer.
- 4.5.1.8. The Contractor may choose inspection format of his/her choice, however format shall contain the minimum information as provided within OHS&E Part 2 regarding weekly inspection form
- 4.5.1.9. The Contractor's OHS&E Personnel shall be accompanied during a formal site inspection by the Site Manager responsible for the particular site. The resulting inspection report shall be signed by both the Site Manager and the OHS&E officer.
- 4.5.1.10. The Employer's Engineer shall formally inspect and report the Contractor's site conditions against the compliance criteria set within the Contractor's operational procedures and the Employer's Engineer 's requirements on a weekly basis. These inspections shall include batching plant and associated yards.
- 4.5.1.11. The Contractor shall undertake specific inspections at the Employer's Engineer 's request where concerns have been raised regarding the suitability of control measures and or plant or equipment condition as per the IS 13367-1 (1992) , IS 14475-1(1997) , ISO 12482-1:1995. Such inspections shall be carried out with immediate effect. First Generation Hydra Crane Banned in TIDEL projects.
- 4.5.1.12. The Hydra crane shall not be used for any lifting and lowering activity.
- 4.5.1.13. The Piling rig shall not be used for any lifting and lowering activity.
- 4.5.1.14. The Profile of the External Inspection agency, ISO certifications, the name, educational qualifications and experience in the field of testing and the certificate issued by Govt of Tamil Nadu for testing are to be submitted to the Employer/Employer's Engineer a minimum 28 days before prior to appointment of the agency. Only upon notice of no objection by the Employer
- 4.5.1.15. /Employer's Engineer shall be authorised to deliver training on TIDEL sites.

#### **4.5.2. Evaluation of compliance**

- 4.5.2.1 The information submitted by the Contractor within the OHS&E Monthly Progress Report together with the Employer's Engineer s Reports shall be evaluated against the Employer's compliance requirements and OHS&E objectives.

- 4.5.2.2 Inspection reports shall be evaluated against the Legal Requirements (4.3.2) to which the Contractor is bound to comply.
- 4.5.2.3 The Contractor's OHS&E Committee shall formally evaluate reports and results of accidents and or injury on a monthly basis. The results of this evaluation such as identified changes to safe systems of working' shall be included with the Committee minutes.
- 4.5.2.4 The Employer's Engineer shall evaluate 'Accident Injury Rates' and 'Frequency Rates' per individual Contractor and as a project to determine performance against the international rates. The international rates used to benchmark performance shall be promulgated to all Contractor's and other interested parties.
- 4.5.2.5 A Project Monthly Progress Report shall be produced by the Employer's Engineer
- 4.5.2.6 .Evaluation results shall be included within the relevant parts for Health Safety & the Environment.
- 4.5.2.7 The Contractor's External OHS&E Audits (4.5.5) shall be evaluated by the Employer's Engineer against the internal Standards ISO 45001:2018 and ISO 14001:20.

#### **4.5.3. Incident investigation, nonconformity, corrective action and preventive action**

##### **4.5.3.1. Incident investigation**

- The Contractor shall undertake accident investigation for all fatal accidents, major injuries and dangerous occurrences.
- In the event of a fatality, major injury or dangerous occurrence, the Contractor shall not disturb the accident scene or remove equipment beyond that required to make the area safe and/or for the treatment and/or removal of casualty(s) to hospital.
- Should the Employer's Engineer find an accident scene disturbed beyond that reasonably expected with making an area safe, this shall be subject to thorough investigation by the Employer's Engineer.
- The Employer's Engineer shall be informed immediately of all fatalities, major injuries or dangerous occurrences. Any delay in reporting to the Employer's Engineer may be subject to disciplinary action.
- The Contractor is responsible to report accidents, incidents and dangerous occurrences to the relevant governing bodies as per their statutory obligations. The Contractor shall maintain responsibility for ensuring sub- Contractor's under their direct control also comply with this requirement.
- A preliminary accident notification report shall be issued to the Employer's Engineer for all fatal and major injuries and or dangerous occurrences within 12 hours as per OHS&E Part 2. This shall be followed by the detailed accident report as per OHS&E Part 2 within 48 hours of the investigation completion.
- Near misses and minor accidents should also be investigated by the Contractor as soon as possible as they are signals that there are inadequacies in the safety management system.
- In case of fatal accidents, major injuries or dangerous occurrences the Employer's Engineer shall conduct an independent investigation. The Contractor

and his staff shall extend the necessary co-operation.

#### 4.5.3.2. Nonconformity, corrective action and preventive action

- The Contractor shall conform to their internal procedures regarding nonconformity, corrective action and preventive action. The Contractor shall be audited by the Employer's Engineer for compliance with internal procedures.
- Major and Minor non-conformances shall be raised by the Employer's Engineer as per the Employer's Quality Management requirements and the OHS&E Audit criteria as defined within OHS&E Part2.
- Open non-conformances shall be reflected in the Contractor's Monthly Audit Report and are subject to verification by the Employer's Engineer as detailed in OHS&E Part 2. Failure to successfully take corrective action and close out non-conformances will impact negatively on the Contractor's total quarterly audit score4.5.5.
- Where non-conformances have been raised by an External Auditor against the ISO 45001 or ISO 14001 Standard, the Contractor shall produce and submit for review within 2 weeks, an action plan of how and within what timescale shall the non-conformance(s) be closed-out.
- Where the corrective action and preventive action identifies new or changed hazards or the need for new or changed controls, the proposed actions shall be taken through the risk assessment process. The associated method statement and risk assessment shall be amended and re-submitted to the Employer's Engineer for notice of no objection.
- A change in work methodology shall be communicated to the workforce. Evidence of such communications shall be made available for inspection by the Employer's Engineer. The Employer's Engineer shall also make random enquiries at site level to establish workforce awareness.

#### 4.5.4. Control of records

4.5.4.1. The Contractor shall maintain all OHS&E records in accordance with the Contractors ISO9001:20 Quality Management System.

4.5.4.2. Records shall be made available to the Employer's Engineer upon request for the purpose of incident investigation and management review.

#### 4.5.5. Audit

##### 4.5.5.1. Monthly Audit Report(MAR)

- The Contractor shall undertake an internal monthly audit using the process and audit report form (MAR) as prescribed within OHS&E Part2.
- The Contractor shall submit the completed audit report no later than the 7th of each month within the Contractor's monthly OHS&E Report. Failure to submit the monthly audit report within the stipulated timescale shall result in the Employer's Engineer awarding a 'Zero' scores for the month.

- The audit scores awarded internally by the Contractor shall be subject to review and verification by the Employer's Engineer. The Employer's Engineer shall substantiate the awarded scores through making comparison with the results of a physical site inspection against the model audit scores criteria as provided within OHS&E Part2.
- The Employer's Engineer shall formally verify that the Contractor's self- awarded scores comply with the audit scoring system and scoring criteria as defined within OHS&E Volume 2. Where discrepancy exists the Employer's Engineer shall provide supporting evidence (Photographic) and instruct the Contractor to amend the initial awarded score. Following adjustment, the monthly audit report shall be re-submitted to the Employer's Engineer within 3 days.

#### **Safety Audit Compliance:**

NCR compliance will be reviewed on periodical monthly basis and penalty clause imposing in the tender for Non Compliance of Non-conformance Report for a) High Risk b) Medium Risk  
c) Low Risk as per below Table-5.

**TABLE-5**

S.No	Risk	Hours from the notice of event within which the work should have are commenced duly mitigating the risk	Penalty
A	HIGH	12 Hrs	Failure to Comply and restart within 12 hrs penalty @ 15,000/- per day per NCR every 24hrs
B	MEDIUM	24Hrs	@rate Rs8,000/- per day per NCR for Non-Compliance
C	LOW	48 Hrs	@ rate Rs 4,000/- per day per NCR for Non Compliance with in 48 hrs

- In the event the Contractor fails to achieve a minimum of 65% on a monthly audit, an action plan shall be submitted together with the audit results detailing the actions that shall be taken within time scales.
- Monthly audits shall be conducted prior to the sitting of the Contractor's Safety Committee and shall form part of the agenda.

#### **4.5.5.2. External OHS&E Audit**

- The Contractor is required to conduct external audits as per the Indian Standards, ISO 45001 :2018 & ISO 14001:20 international standards on a quarterly basis throughout the Contract period.
- External audit and follow up audit reports shall be submitted to the Employer's



Engineer for review within 7 days of audit completion.

- Should the Contractor fail to undertake external audits within the 3 month period the Employer's Engineer shall appoint an ISO accredited 3rd party agency to conduct the audit at the Contractor's cost.
- Where 'Major' non-conformances with international standards are identified, a follow-up external audit shall be carried out within 28 days for closing out of the non-conformance(s). Follow-up audits shall continue on a 28 day rotation until such time as Major non-conformances are closed to the satisfaction of the 3rd Party ISO accredited auditor.

#### **4.6 Management review**

**4.6.1.** Management Reviews shall be undertaken annually by the Employer's Engineer in compliance with ISO 9001:2015.

**4.6.2.** The Management Review Report shall make recommendations for improvement.

**4.6.3.** The Contractor shall carry out a formal Management Review on an annual basis as a minimum. The Management Review may form part of the review under the organisations Quality Management System.

**4.6.4.** The Contractor shall submit Management Review Report to the Employer's Engineer within 7 days after meeting completion together with the organization's new objectives.

#### **4.7 Deductions**

The amount of money to be deducted for failure to achieve a minimum of 65% score in the monthly audits and for the non-compliance of the requirements (unsafe acts/unsafe conditions) is listed in the attached Table-6.

**TABLE - 6**

<b>S. NO.</b>	<b>TOPIC</b>	<b>MONTHLY MARS AUDIT</b>	<b>DEDUCTIBLE AMOUNT *</b>
1.	MARS Audit	Failing to achieve minimum 65% on a monthly basis	Rs.8,00,00
2.	OSHE Training	i) Not complying to the requirements as mentioned in contract requirements on OSHE:  a) Induction training not given. b) Supervisor/engineer/manager training not conducted. c) Refer OSH&E training not conducted. d) Tool-box talk not conducted. e) Skill development training not conducted. f) Top management behaviour based OSHE training not conducted.	Rs.8,000 for first non-compliance and Rs.15,000 for subsequent non-compliances
3.	Site tidiness	i) Housekeeping maintenance register not properly maintained up to date. ii) Surrounding areas of drinking water tanks / taps not hygienically cleaned / maintained. iii) Office, stores, toilet / urinals not properly cleaned and maintained. iv) Required dustbins at appropriate places not provided / not cleaned. v) Stairways, gangways,	Rs.3,000 per single non-compliance compounded to a maximum of Rs.8000 at any single instance.

		<p>passageways blocked.</p> <p>vi) Lumber with protruding nails left as such</p> <p>vii) Openings unprotected</p> <p>viii) Excavated earth not removed within a reasonable time.</p> <p>ix) Truck carrying excavated earth not covered / tyres not cleaned.</p> <p>x) Vehicles / equipment parked / placed on roads obstructing free flow of traffic.</p> <p>xi) Unused surplus cables / steel scraps lying scattered.</p> <p>xii) Wooden scraps, empty wooden cable drums lying scattered.</p> <p>xiii) Water stagnation leading to mosquito breeding.</p>	
4.	Working at Height	<p>i) Not using or anchoring Safety Belt.</p> <p>ii) Not using Safety Net.</p> <p>iii) Absence of life line or anchorage point to anchor safety belt.</p> <p>iv) Non-compliance of TIDEL OSH&amp;E contract requirements.</p> <p>v) Using Bamboo ladders.</p> <p>vi) Painting of ladders.</p> <p>vii) Improper usage (less than 1m extension above landing point, not maintaining 1:4 ratio).</p> <p>viii) Aluminum ladders without base rubber bush.</p> <p>ix) Usage of broken / weak ladders.</p> <p>x) Usage of re-bar welded ladders.</p> <p>xi) Improper guardrail, toe board, barriers and other means of collective protection.</p> <p>xii) Improper working platform.</p> <p>xiii) Working at unprotected fragile surface</p> <p>xiv) Working at unprotected edges.</p>	Rs.3,000 per single non-compliance compounded to a maximum of Rs.8,000 at any single instance

5.	Plant	<ul style="list-style-type: none"> <li>i) Non availability of fitness certificate.</li> <li>ii) Documents not displayed on the machine or not available with the operator.</li> <li>iii) Maximum Safe Working Load not written on the machine.</li> <li>iv) Non-compliance of TIDEL OSH&amp;E contract requirements.</li> <li>v) Automatic safe load indicator not provided or not in working condition.</li> <li>vi) Non-compliance of any of the items mentioned regarding rigging requirements.</li> <li>vii) Failure to submit method statement in case of all critical lifting.</li> <li>viii) Person riding on crane.</li> <li>ix) Creating more noise and smoke.</li> <li>x) Absence of portable fire extinguisher in driver cabin.</li> <li>xi) Fail to guard hoist platform.</li> <li>xii) No fencing of hoist rope movement area.</li> <li>xiii) Hoist platform not in the horizontal position.</li> </ul>	Rs.5,000 per single non-compliance compounded to a maximum of Rs.12,000 at any single instance
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6.	Electrical	<ul style="list-style-type: none"> <li>i) Non-compliance of TIDEL OSHE contract requirements</li> <li>ii) Exposed electric lines (fermentative damage) and circuits in the workplace.</li> <li>iii) Inserting of bare wires into the socket Improper grounding for the electrical appliance</li> <li>iv) Electrical cables running on the ground</li> </ul>	Rs.3000 per single non-compliance compounded to a maximum of Rs.8,000 at any single instance
7.	Fire precaution	<ul style="list-style-type: none"> <li>i) Smoking and open flames in fire prone area.</li> <li>ii) Using more than 24V portable electrical appliances in the fire prone area.</li> <li>iii) Not proper ventilation in cylinder storage area.</li> <li>iv) Absence of fire extinguish.</li> <li>v) Fire extinguishers not refilled once in a year.</li> <li>vi) Fire extinguisher placed in a not easily accessible location</li> </ul>	Rs.500 per single non-compliance compounded to a maximum of Rs.5000 at any single instance.
8.	Excavation	Non-compliance of TIDEL OSHE contract requirements	Rs.3000 per first non-compliance and Rs.15000 for subsequent non-compliances
9.	Public Interface & Site Entry	Non-compliance of TIDEL OSHE contract requirements	Rs.5,000 per first non-compliance and Rs.12,000 for subsequent non-compliances
		a) Barricades <ul style="list-style-type: none"> <li>i) Not Cleaned</li> <li>ii) Not in alignment</li> <li>iii) Not numbered</li> <li>iv) Not painted</li> <li>v) Red lights / reflectors not working</li> <li>vi) Damages not repaired</li> <li>vii) Not secured properly</li> <li>viii) Barricade inspector not employed</li> <li>ix) Protruding parts I portions repaired</li> </ul>	Rs.1000 per single non-compliance Compounded to a maximum of Rs.5,000 at any single instance

		b) Contractor Vehicles i) Over loading of vehicles ii) Unfit drivers or operators iii) Unlicensed vehicles iv) Absence of traffic marshals v) Absence of reversing alarm vi) Absence of fog light (at winter) vii) Power / hand brakes noting working condition.	Rs.1000 per single non-compliance Compounded to a maximum of Rs.5,000 at any single instance
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S. NO.	TOPIC	MONTHLY MARS AUDIT	DEDUCTIBLE AMOUNT *
		c) Splashing of Bentonite on roads / non- cleaning of tyres of dumpers and transit mixer` i) Mishandling of bentonite like splashing of bentonite outside specified width of barricading ii) Non-cleaning of tyres of dumpers and transit mixers before leaving the site and thereby creating a traffic safety hazard to road users.	a) Rs.5,000 on first observation. b) Rs. 10000 on second observation c) Rs. 15000 on third and subsequent observations
10.	PPE	i) Not having ii) Not wearing (or) using and kept it elsewhere iii) Using damage done iv) Using wrong type v) Using wrong colour helmet or helmet without company logo vi) Using for other operation (e.g. Using safety helmet for storing materials or carrying water from one place toothier)	From item i) to vi). Rs.250 per single non- compliance For item vii) to viii). Rs.500 for first non-compliance and Rs.250 for subsequent non-compliances

11	Occupational Health	<ul style="list-style-type: none"> <li>i) Fail to conduct Medical examination to workers</li> <li>ii) Absence of ambulance van &amp; room</li> <li>iii) Workers not having ID card</li> <li>iv) Inadequate number of toilets</li> <li>v) Toilets not cleaned properly</li> <li>vi) Absence of water facilities for toilets and washing places</li> <li>vii) Toilet placed more than 500m from the worksite</li> <li>viii) Absence of drinking water</li> <li>ix) Absence of first-aid person in worksite.</li> <li>x) Absence or inadequacy of first-aid box.</li> <li>xi) Misuse of first-aid box.</li> <li>xii) First-aid box not satisfy the minimum Indian standard.</li> <li>xiii) Smoking inside the construction site</li> </ul>	
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S. NO.	TOPIC	MONTHLY MARS AUDIT	DEDUCTIBLE AMOUNT *
12.	Occupational Health	<ul style="list-style-type: none"> <li>xiv) Drink and drive or work</li> <li>xv) Excessive noise and vibration</li> <li>xvi) Canteen not provided</li> <li>xvii) Food stuff not served on no loss no profit basis</li> <li>xviii) Creche not provided</li> <li>xix) Accommodation not provided as per BOCWA Fumigation / insecticides not sprayed to prevent Mosquito breeding</li> <li>xx) Non-compliance of TIDEL OSHE contract requirements</li> </ul>	Rs.500 per single non-compliance compounded to a maximum of Rs.5000 at any single instance
12.	Welfare	<ul style="list-style-type: none"> <li>i) Non adherence of Labour welfare provisions of BOCWA</li> <li>ii) Fail to register establishment and display the registration certificate at workplace</li> <li>iii) Absence of workers register and records</li> <li>iv) Absence of muster Rolland wages register</li> <li>Fail to display an abstract of BOCWA and BOCWR.</li> </ul>	Rs.500 per single non-compliance compounded to a maximum of Rs.3000 at any single instance



13.	Environment	<ul style="list-style-type: none"> <li>i) Tyre wash facility not provided.</li> <li>ii) Spillage from vehicles not arrest.</li> <li>iii) Air monitoring not practiced.</li> <li>iv) Noise monitoring not practiced.</li> <li>v) The values of air monitoring and noise monitoring not within acceptable limits.</li> <li>vi) Dust control measures at sites not practiced.</li> </ul> <p>Improper disposal of debris / residues.</p>	Rs.500 per single non-compliance compounded to a maximum of Rs.3000 at any single instance
14.	Floor Openings	<ul style="list-style-type: none"> <li>i) No Risk Assessment carried out showing physical barriers or risk of operatives falling into hole. Design assessment does not incorporate falls from height</li> <li>ii) Daily monitoring not recorded.</li> <li>iii) Sub-contractors supervision management not include inspection in their weekly report.</li> </ul>	Rs.500 per single non-compliance compounded to a maximum of Rs.5,000 at any single instance

S. NO.	TOPIC	MONTHLY MARS AUDIT	DEDUCTIBLE AMOUNT *
15.	Confined Spaces	<ul style="list-style-type: none"> <li>i) No procedure in place including emergency actions.</li> <li>ii) No Risk Assessment carried out showing hazards and risk to operatives.</li> <li>iii) Untrained operative monitoring air supply. Faulty equipment on site. Battery low, no equipment on site, no monitoring</li> <li>iv) No rescue equipment on site and works in progress.</li> </ul>	Rs.1000 per single non-compliance compounded to a maximum of Rs.5000 at any single instance
16.	SHE Organization	<ul style="list-style-type: none"> <li>i) Not complying to the minimum manpower requirements as mentioned in the contract Requirement</li> <li>ii) Not filling up the vacancies</li> </ul>	<ul style="list-style-type: none"> <li>i) Rs.5000 per month for first month and Rs.10000 for subsequent months</li> <li>ii) Rs.3000 per month for first month and Rs.5000 for subsequent months</li> </ul>

Without limiting to the unsafe acts and or conditions mentioned above the ER/Employer shall have the right to deduct charges for any other unsafe act and or condition depending upon the gravity of the situation on a case-to-case basis. The charges shall be in comparison with that of the similar offence indicated in the above table.

**\* Maximum amount deductible for item at S.No. 1 during the entire contract duration shall not exceed 1% of contract value.**

**\*\* Maximum cumulative amount deductible for items at S.No. 2 to S. No. 16 during the entire contract duration shall not exceed 1% of contract value.**

COVID/PANDEMIC – SOP (safe operating procedure) :

Contractor to follow the safe operating procedure issued by Health department and Local authorities from time to time during the execution of work.

Contractor to ensure the wearing face mask of specification stipulated in SOP are worn by staff and workmen.

Contractor to ensure the checking of body temperature for staff, workmen and other persons entering/leaving the site. Contractor to maintain a register and the temperature measured has to be recorded against persons name with date and time. Person having temperature above the limit specified in SOP were not allowed to enter work premises and contractor to do isolation in line with SOP or to be admitted in the nearby health center based on the intensity of fever mentioned in the SOP.

Contractor to maintain hand sanitizer in work places particular at site entrance, meeting place, site office, site store, site clinic etc. Further contractor to maintain Ceramic or SS washing basin at vital places around the site of work for washing the hand for personnel's working in the site.

Based on the SOP issued by health department modifying the seriousness of infection levels from time to time, these Requirements can be followed in very strict way or optional or at random level.

**SECTION IV**  
**EMPLOYER'S(OWNER'S) REQUIREMENTS**  
**OCCUPATIONAL, HEALTH, SAFETY AND**  
**ENVIRONMENTAL**  
**PART-2**

**GUIDANCE DOCUMENTS**

INDEX	REFERENCE	REVISION	DATE
Lifting Operations Guidance	GSAF 001		
Method Statements Contents	GSAF 002		
Working At Height	GSAF 003		
OHS&E Training Matrix	GSAF 004		
Emergency Fire Bomb	GSAF 005		
Audit Criteria	GSAF 006		
Emergency Response Plan	GSAF 007		
Health Plan	GSAF 008		
On Site Traffic Management Plan	GSAF 009		
Project OHS Plan	GSAF 010		
Site Fire Plan	GSAF 011		
Traffic Management Plan	GSAF 012		
Training Implementation Plan	GSAF 013		
Monthly Report Contents	GSAF 014		
Safety Posters	GSAF 015		
ID Card Formats	GSAF 016		
Days to be Observed	GSAF 017		
Minimum Lighting Requirements	GSAF 018		

**OPERATIONAL GUIDANCE PROCEDURE**  
**LIFTING OPERATIONS CONTENTS GUIDE**

Rev.	Date	Description
0		Reviewed/edited/amended in conjunction with management review
0		Issued for use

	Prepared by:	Reviewed by:	Approved by:
Name:			
Date:			
Signature:			

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**Construction Method Statement Contents Guide**

The headings and sub-headings listed below are not exhaustive		Identified	
		Yes / No	
1.	<b>Purpose</b>		
2.	<b>Scope of Work (detailed)</b> Detailed description of Works to be undertaken. Limits of work and site boundaries, including time limits / Completion criteria		
3.	<b>References/Consents/Supporting Information</b>		
4.	<b>Hazards &amp; Risks Identified</b> <ul style="list-style-type: none"> <li>List significant hazards with operation and as identified in the <u>Project Safety Plan</u>.</li> <li>Consider health and safety implications</li> <li>Risk Assessments</li> <li>Hazardous substance assessments</li> </ul>		
5.	<b>3<sup>rd</sup> Party/Arrangements/Protection/Communication &amp; Liaison</b> <b><u>Method</u></b> <ul style="list-style-type: none"> <li>Movement – storage of materials and equipment</li> <li>Restricted clearances – plant &amp; equipment</li> <li>Reduced site lines for travelling public and construction plant</li> <li>Occupied premises within or adjacent to operations</li> <li>Over-flying work operations (cranes)</li> <li>Site security</li> <li>Road traffic management</li> <li>Pedestrian management</li> <li>Interface with public bodies and schools</li> <li>Public safety</li> <li>Temporary fencing and protection</li> </ul> <b><u>Communication &amp; Liaison</u></b> <ul style="list-style-type: none"> <li>Identify specific persons who must be contacted, additional to those specific in <u>the Project Safety Plan</u> e.g. <u>other section engineers</u></li> <li>Consider other contractors working nearby. Highway Authorities. Occupiers of adjacent property. Client undertakings.</li> <li>Sub-standard conditions reporting</li> </ul>		

	<p><b><u>Supporting Information</u></b></p> <p>Drawing and layout of initial, interim and final works. Temporary Works design, support calculations, checking and approval Quality control arrangements</p>		
6.	<p><b><u>Environmental</u></b></p> <ul style="list-style-type: none"> <li>Noise, dust, smoke, mud, vibration.</li> <li>Disposal of waste, frequency and method of disposal.</li> <li>De-watering arrangements and disposal of water</li> <li>Pollution controls</li> </ul> <p>Fuels, oils etc., storage and containment</p> <p>Environmental – liaison</p>		
7.	<p><b>Method: Briefing Arrangements, Plant, Personnel</b></p> <p><b><u>Method</u></b></p> <ul style="list-style-type: none"> <li>Reference to programme chart showing sequence of separate tasks</li> <li>Standards and Procedures</li> <li>Sketches</li> <li>Access and egress arrangements</li> <li>Delivery of materials</li> <li>Details of temporary structures</li> <li>Method of authorising start of work</li> <li>Risk Assessments considering Health and Safety</li> </ul> <p><b><u>Personnel</u></b></p> <ul style="list-style-type: none"> <li>Number of contractors and sub-contractors</li> <li>Communication methods</li> <li>Supervision arrangements, including names of person incharge</li> <li>Competence and training requirements. (especially in respect of plant and equipment used)</li> <li>Working hours</li> <li>Shift hand-over arrangements</li> <li>Welfare and first aid</li> <li>Access requirements, special conditions</li> </ul> <p><b><u>Briefing Arrangements</u></b></p> <ul style="list-style-type: none"> <li>Determine level and extent of briefing arrangements including accompanying documentation.</li> <li>Detail how understanding is to be confirmed by contractors and or individuals</li> </ul> <p><b><u>Plant &amp; Equipment</u></b></p> <ul style="list-style-type: none"> <li>Specify plant and equipment to be used</li> <li>Competence requirements to operate or erect plant and equipment</li> <li>Authority to work</li> </ul>		

	<ul style="list-style-type: none"> <li>• Operational Restrictions</li> <li>• Permit systems</li> <li>• Inspection and examinations</li> <li>• Record keeping</li> <li>• Temporary lighting</li> <li>• Detail of cranes, lifting machines, appliances and lifting tackle; including details of site access,</li> <li>• Rigging and de-rigging</li> </ul>		
	<p><b><u>Infrastructure Protection</u></b></p> <ul style="list-style-type: none"> <li>• Identify hidden services</li> <li>• Use of approved Cable Locating Tools</li> <li>• Identify infrastructure susceptible to damage e.g. power and telecommunications equipment,</li> <li>• pipes, air mains, fire detection equipment</li> <li>• Sketch showing location of services or reference where information can be found.</li> <li>• Isolation and protection – safe working locations.</li> <li>• Permits to work</li> <li>• Lock out procedure and control.</li> <li>• Hand over and re-energizing</li> <li>• Plant movements.</li> <li>• <u>Additional</u> fire precautions</li> <li>• Hot Work arrangements</li> <li>• Structural considerations for existing buildings &amp; structures.</li> </ul>		
8.	<p><b><u>Quality</u></b></p> <ul style="list-style-type: none"> <li>• Quality Control arrangement</li> </ul>		
9.	<p><b><u>Safety</u></b></p> <ul style="list-style-type: none"> <li>• Control measures for specific health hazards e.g. Leptospirosis</li> <li>• Relevant contractor's risk assessments, including COSHH and manual handling</li> <li>• Permit to work systems</li> <li>• Personal protective equipment requirements</li> <li>• Etc</li> </ul>		
10.	<p><b><u>Hold Points</u></b></p> <p>Hold Points are trigger levels if exceeded then the work ceases. This will include safety, quality and environmental issues.</p>		
11.	<p><b><u>Inspection &amp; Test Plans</u></b></p>		

OPERATIONAL GUIDANCE PROCEDURE WORKING

AT HEIGHT CONTENTS GUIDE

Rev	Date	Description
		Reviewed/edited/amended in conjunction with management review
		Issued for use

	Prepared by:	Reviewed by:	Approved by:
Name:			
Date:			
Signature:			

**1.Scope.....**

**2.Definitions.....**

**3.Responsibility.....**

**4.Procedure.....**

**5.Examples / Diagrams / Flow Charts.....**

**6.General Assessments.....**

**WORKING AT HEIGHT (GENERAL) RISK ASSESSMENT**

## OHS&amp;E TRAINING MATRIX

Types of training	OHS&E Orientation	OHS&E Leadership	OHS&E Plan	OHS&E Improvement Plan	Management of	OHS&E Audit & Inspection	OHS&E	Incident/Accident Investigation & Reporting	OHS&E Communication	OHS&E Promotion & Incentives	Hazard Identification & Risk Analysis	Permit to work	Confined space entry	scaffolding	Waste Management	Environment Monitoring	Labour welfare	Behavioural Based Safety	Job/Task Safety
Project Manager																			
Sr. Managers																			
Quality Manager																			
Planning engineer																			
Managers																			
Supervisors																			
Foreman																			
Machinery Operators																			
Material Handlers																			
Welder																			
Mechanical workers																			
Other Civil workers																			
Electrical workers																			
Transportation Drivers																			
Security Officers																			
Clerical Staff																			
Medical Doctor																			
Sr. SHE Managers																			
Jr. SHE Managers																			
SHE Supervisors																			



Types of training	Supervisor										
	Safety Training Observation Programme	Industrial First Aid & CPR	Incident / Accident	Fire fighting	Confined Space	Scaffold Erection & Dismantling	Rigging	Wire Rope	Crane Inspection	Electrical/Mechanical	Permit to Work System
Project Manager											
Sr. Managers											
Quality Manager											
Planning engineer											
Managers											
Supervisors											
Foreman											
Machine ry Operator s											
Material Handlers											
Welders											
Mechanical workers											
Other Civil workers											
Electrical workers											
Transportation Drivers											
Security Officers											
Clerical Staff											
Medical Doctor											
Sr. SHE Managers											
Jr. SHE Managers											
SHE Supervisors											

Types of training	Specific											
	Safety Training Observation Programme	Industrial First Aid & CPR	Incident / Accident Investigation &	Fire fighting	Confined Space Testing &	Scaffold Erection &	Rigging	Wire Rope	Crane Inspection	Electrical/Mecha nical Isolation	Permit to Work System	
Project Manager												
Sr. Managers												
Quality Manager												
Planning engineer												
Managers												
Supervisors												
Foreman												
Machinery Operators												
Material Handlers												
Welders												
Mechanical workers												
Other Civil workers												
Electrical workers												
Transportation Drivers												
Security Officers												
Clerical Staff												
Medical Doctor												
Sr. SHE Managers												
Jr. SHE Managers												
SHE Supervisors												

Specific														
Types of training	Confined Space Working	Explosive Handling &	Heavy Lifting Operation	Radiography (X-Ray)	HAZMAT Handling &	Welding, Cutting & Bracing	Power Actuated Hand Tool	Electrical/Mecha nical Isolation	Roofing Work	erection work	Scaffold Erection/Disman	False-work Erection /	Painting in Confined Area	
Project Manager														
Sr. Managers														
Quality Manager														
Planning engineer														
Managers														
Supervisors														
Foreman														
Machinery Operators														
Material Handlers														
Welders														
Mechanical workers														
Other Civil workers														
Electrical workers														
Transportati on Drivers														
Security Officers														
Clerical Staff														
Medical Doctor														
Sr. SHE Managers														
Jr. SHE Managers														
SHE Supervisors														

## EMERGENCYPROCEDURE

## FIRE/BOMBALERT

<b>OPERATING COMPANY:</b>			
<b>SITE / CONTRACT:</b>			
<b>SITE ADDRESS:</b>			
<b>SITE TELEPHONE No:</b>			
<b>FIRE / BOMB WARDEN DETAILS</b>			
<b>NAME</b>	<b>AREA COVERED</b>	<b>CONTACT TEL</b>	<b>POSITION</b>
<b>PROCEDURE</b>			
1. A record of all personnel must be kept on site each day.( Visitors Register and the Operatives Daily Register).			
2. All personnel must be made aware of the fire drill during the Safety Induction.			
3. All personnel must familiarise themselves with the location of Fire Extinguishers			
Fire Alarm Call Points (temporary and permanent), Escape Routes and the Designated Assembly Point.			
4. If a fire or bomb is discovered warn others by shouting and ensure TEL 999 is called.			
5. Send a colleague to advise the designated fire wardens /fire safety co ordinator/site manager.			
6. If it is a fire raise the fire alarm at a Break Glass or by sounding any temporary sirens / horns/ bells supplied for this purpose.			
7. Try to put out the fire only if it is safe to do so, using the appropriate fire fighting equipment.			
8. On hearing the fire alarms evacuate the workplace leave tools, equipment and personal belongings behind.			
9. Proceed to the Assembly Point where a check will be undertaken to confirm all personnel are out.			
10. Inform the fire/bomb warden or those in authority if you know someone is missing.			
11. Do not return to the work place until instructed by Rok Management.			
<b>NOT PUT</b>			
In order	If you do		

OHS AUDIT MEASUREMENT CRITERIA

Points will be objectively awarded by Contractor based upon site safety conditions

Scoring will be as follows:

- Excellent (E) = 10,
- Good (G) =8,
- Average (A) =6,
- Fail (F) =0,
- Non-Conformance (NC) =-10

Non-Conformance (NC) = -10 with the exception of those sections marked with an asterisk which will have a factor of 2 thus doubling the score for that section.

All non-conformances within the heavy bordered areas will receive an Action Notice at the required level. All Suspended Operations Notices will be referred to the Project Manager, who will visit site within 24 hours to carry out further safety inspections.

Any non-applicable topic and the corresponding “possible score” will not be marked and the score will be calculated by recognizing the relevant possible score as being 100% and the actual score as a percentage of this

Tidel Park Ltd, Chennai

Key:

Contractor assigned score	
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Employer’s Representative Score	
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**1. Notices Displayed**

<b>ACTIVITY</b>	<b>EXCELLENT</b> [An Exceptional Standard] <b>10Points</b>	<b>GOOD</b> [Exceeding the Norm] <b>8 Points</b>	<b>AVERAGE</b> [In line with OSHE Procedures] <b>6 Points</b>	<b>INSUFFICIENT</b> [In Need of Improvement] <b>0 Points</b>	<b>NON CONFORMANCE</b> [Unsatisfactory] <b>-10 Points</b>
<b>1.1 Health and Safety Information</b>	Additional Posters displayed - i.e. mess room, site entry and point of work area and changed on monthly basis  Safety promotional conducted at site & participations of staff , workmen and sub-contractors	Accidents , incidents and near misses together with any lessons learned displayed on notice board and poster campaigns conducted  Safety Hand book on safety and health made available and provided to employees  Safety incentive schemes are in place for motivation (awards and rewards)	Displayed on office notice board/all boxes completed. Emergency contact information detailing where to report .Public information signage and contractor contact information posted externally	Limited visitor information signage, H&S Posters, banners etc. provided both in Marathi /Hindi and English. Work force representative's name contact number posted on all sites externally to siteoffice  Safety contents organized in sites	Not displayed Health and Safety.  No safety suggestion box at each site and labour colony  No smoking , No alcohol drinking at public site poster not displayed and no awareness training
<b>1.2 Health and Safety Policy Statements</b>	Additional copies displayed in, i.e. canteens etc	Health & Safety policy declared, adopted & Policy is made know to all?	Organisation signed policy Displayed on notice board/ policy reviewed and up to date.	Organization having a Health and Safety Policy signed by the project Manager in Hindi and/ or localLanguage	Policy not complying with the statutory provisions and MMRC OHS&E Line 3 ?

<b>1.3 Employer's Liability Insurance Certificate</b>	Additional copies displayed in other locations	Additional copies displayed in, i.e. canteens etc.	Displayed on office notice board/ up to date.	Displayed in prominent position	Not displayed or expired.
<b>1.4 Protective Equipment Sign</b>	Numerous signs on shows inside the work area.	Signs displayed at site entrance and along site hoarding/ perimeter fence.	Good clear sized signage in visible positions.	Few signs displayed, not easily seen.	No signs displayed.
<b>1.5 Reversing Vehicles Sign</b>	Banks men wearing colour coded high visibility vests/ helmets.	Signs displayed with contact number for named banks men.	Signs displayed at site entrance and around site.	Few or small signage in place. Signs not easily seen.	No signs displayed.
<b>1.6 Emergency Procedure</b>	Also displayed in site areas. Review dates set, drills completed. Reviewed after an alarm. Emergency mock drill are conducted as per emergency plan	Good content. Displayed at both exits and fire points, all inducted.  Emergency control centre established and assembly points provided at site	Displayed but poor in content.  Emergency team identified and emergency evacuation plan displayed at prominent locations at site	Not fully established, some not inducted.	Not displayed.  No Emergency contact numbers of local bodies and other organizations are displayed at site No staff , workmen familiar with the plan No emergency lighting

<b>1.7 First Aider(s), Male Nurse ,Doctor</b>		Helmet sticker s worn. Additional first aiders on site.	First aid points clearly designated . Fully equipped Ambulance with driver available at site in all working hours and emergency life support equipment attached in Ambulance	Named and displayed , good cover Safety, First aid box available in each work site with trained personal	Not identified. No full time cover both day and night shift. Fully trained. In each site office and work location to attending emergencies	None on site. No records of first aid boxes inspection No records of first aid training No enough qualified /trained first aiders are available at each site each shift No first Aid room /Ambulance room atsite No tie with nearest hospital No qualified doctor available in each shift in site
<b>1.8 Project Notice Boards</b>		Occupational health posters HAV etc displayed in prominent positions.	Good EHS information, COSHH etc. Policies in CHSP	Minimal requirement site rules etc.	Some displayed not all requirements met. Telephone no of local Fire , Electrical and other agency	Not displayed.



<b>1.9 Site rules</b>		Additional copies displayed in other locations , i.e. work area.	Additional copies displayed in, i.e. canteens etc	Forms part of induction . Displayed on office notice board.	Not all site staff inducted.	Unsafe acts and conditions in breach of rules.
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**2. Planning**

<b>ACTIVITY</b>	<b>EXCELLENT</b> [An Exceptional Standard] <b>10 Points</b>	<b>GOOD</b> [Exceeding the Norm] <b>8 Points</b>	<b>AVERAGE</b> [In line with OSHE Procedure] <b>6 Points</b>	<b>INSUFFICIENT</b> [In Need of Improvement] <b>0 Points</b>	<b>NON CONFORMANCE</b> [Unsatisfactory] <b>-10 Points</b>
<b>2.1 Construction Phase Health and Safety Plan</b>	All reviews briefed to staff on site and recorded (i.e. tool box talk). Plan updates available onsite	Reviewed more frequently than procedures dictate, i.e. prior to phase changes or weekly.	Reviewed monthly and up to date. All sections reviewed. Evidence of changes made. Engineer Notified	Not reviewed regularly or only going through the motions (i.e. no record of appropriate changes) Engineer not notified  Notice of no objection not received	Construction Phase Health and Safety Plan for stations not reviewed.
<b>2.2 Risk Register &amp; Hazard Log</b>	Hazard & Risk Log Procedure in place for review and change Key Task Schedule. Engineer Notified of Updates to Hazard & Risk Logs. Updates available on site	Company Procedures referenced within Hazard & Risk Log. Procedures available on site	Hazard & Risk Log Schedule of Key Tasks completed with dates required, RA's and MS on site.	Hazard Log & Risk Register not available on site.  Notice of no objection not received	

<b>2.3 Risk Assessment &amp; Method Statements Completed</b>	Review of RA/MS carried out following near miss or incident/accident. Review evidence provided to ER	RA/MS Available on site. Schedule of operative briefings identified.	Completed as per Hazard Log & Risk Register. Suitable and sufficient for tasks. Notice of no objection received from ER	RA/MS on site but not suitable and sufficient for task. Notice of no objection not obtained from ER.	RA/MS not completed. No Design Risk Assessment
<b>2.4 Risk Assessment &amp; Method Statement Briefings</b>	Follow up briefings, recorded to show updates and change reviews. Engineer Notified of change.	Record of all briefings maintained . Signed proof of attendance maintained	Task Briefings carried for all Risk Assessments and Method Statements	Only the occasional RA/MA briefing carried out. Task briefing not conducted Notice of no objection not received	No briefings of RA or MS carried out.  Task briefing not conducted
<b>2.5 Risk Assessments &amp; Method Statement Implementation</b>	Briefing records signed by operatives and available on site	RA/MS available on site.  Operative trained and able to explain Assessment.	Works carried out as per the RA/MS.  Designated supervisor or available	Operatives not briefed on contents of the RA/MS. Change in methodology not notified to Engineer. Notice of no objection not received	Provision as determined in the RA/MS not available on site  No supervision  Not following the RA/MS safe system of work methodology.

<b>2.6 Health and Safety Organisation Chart</b>	List/ Names and positions of key competent persons provided displayed at point of work and in other locations i.e. Rest Areas	Procedure available on authority given to OHS&E Personal to STOP any unsafe act and condition.	HSE professional provided such facilities, equipment and other facilities. Sub-contractor work monitored by Main contractor both day and night shift etc. A qualified Doctor and nurse and Assistant Nurse deployed at each work site	H & S personal deployed at site are professional qualified including sub-Contractor up to date  All sections completed displayed in prominent position  Notice of no objection not received from Engineer	Incomplete or not up to date (i.e. no showing management changes). No public liaison officer .No Labour Welfare officer
<b>2.7 Manual Handling Assessment</b>	Comprehensive controls designated. Daily monitoring recorded. Tool box talks carried out, information posters displayed.	Comprehensive specific risk assessments  Briefings recorded.	Included in task risk assessment.  Where possible mechanical aids are used  Briefings recorded.	RA & controls needs enhancement. Control measures poor. Reliance placed on manual handling rather than mechanical  Notice of no objection not received from Engineer	No risk assessments

<b>2.8 Manual Handling Training</b>	Tool box talks. Guidance documents displayed at workplace.	Additional training, records maintained. Guidance documents displayed.	Completed with all staff as per induction.  Training being put into practice  Records maintained.	Some completed poor in content.	None.
<b>2.9 Safe Operational Control Procedure</b>	Safe Operational Control Procedure available for all activity	Safe operating procedure displayed and file available and explained in the local language to the workers	SOP reviewed and updated regularly. Training provided to workmen to identify the unsafe act and unsafe condition	Some of activity SOP completed prepared jointly by the site team and safety team and available. Notice of no objection not received from Engineer	No safe operating procedure as per ER OHS&E contract requirement of MMRC line 3
<b>2.10 OHS&amp;E Management System Procedure</b>	OHS&E Management System Procedure  available for all activity are per Table 3 of OHS&E COC	OHS&E Management system procedure file available and explained in the staff	MSP reviewed and updated regularly.  Training provided to workmen to identify the unsafe act and unsafe condition	Some of activity MSP completed prepared jointly by the site team and safety team and available.  Notice of no objection not received from Engineer	No OHS&E Management system procedure.

<b>2.11 Emergency Preparedness and Response plan</b>	All reviews briefed to staff on site and recorded (i.e. tool box talk). Plan updates available onsite	Reviewed more frequently than procedures dictate, i.e. prior to phase changes or weekly.	Reviewed monthly and up to date. All sections reviewed. Evidence of changes made. Engineer Notified	Not reviewed regularly or only going through the motions (i.e. no record of appropriate changes) Engineer not notified  Notice of no objection not received from Engineer	Emergency Preparedness and Response Plan for stations not reviewed.
<b>2.12 International Certifications</b>	Copy of certification displayed in site areas. Review dates set, completed.	No project specific certification	International certification Audit conducted	Appointed the accrediting body for obtaining the certification and No audit conducted. Engineer not notified  Notice of no objection not received from Engineer	No process of certification. No appointment of accrediting body for obtaining the certification
<b>2.13 Training Implementation Plan</b>	Additional Training conducted and Recorded	Records of all Training conducted including for all sub contractor's and maintained	No training conducted for Sub contractor's	Training Implementation Plan .Notice of no objection not received from Engineer	No Training Implementation Plan. No assessment done

<b>2.14 Fire Evacuation Plan</b>	Records of briefing maintained and or Fire drills carried out.	Reviewed prior to all phase changes. Plan displayed in critical areas, at all fire points. Workforce aware and briefed.	Plan established and displayed at exit points and at fire points. Included within induction. Reviewed with health and Safety Plan.	Basic plan, not displayed.  Not included in induction.	Not established
<b>2.15 Fire Risk Assessment</b>	Reviewed prior to start of all hot work or tasks using flammable materials. Records kept.	Reviewed prior to all phase changes. Records of briefing maintained.	Risk assessment completed and available. Task risk assessments consider fire risk. Operatives briefed.	Poor content, not communicated to operatives.	Not carried out
<b>2.16 PPE As per Risk Assessment</b>	Specified, enforced, monitored and recorded (random daily checks).	Operatives briefed on correct use and maintenance requirements. Use monitored by supervisor.	PPE identified in risk assessment including relevant standard. Being used as per RA/MS In test.	PPE not specified in risk assessment.	No risk assessment.
<b>2.17 Lift Plan and Risk Assessment</b>	All reviews briefed to staff on site and recorded (i.e. tool box talk). Plan updates available onsite	Reviewed more frequently than procedures dictate, i.e. prior to phase changes or weekly.	Reviewed monthly and up to date. All sections reviewed. Evidence of changes made. Engineer Notified	Not reviewed regularly or only going through the motions (i.e. no record of appropriate changes) Engineer not notified  Notice of	No lift Plan and Risk Assessment

				no objection not received	
<b>2.18</b>  <b>Transportation Plan and Risk Assessment</b>	All reviews briefed to staff on site and recorded (i.e. tool box talk). Plan updates available onsite	Reviewed more frequently than procedures dictate, i.e. prior to phase changes or weekly.	Reviewed monthly and up to date. All sections reviewed. Evidence of changes made. Engineer Notified	Not reviewed regularly or only going through the motions (i.e. no record of appropriate changes) Engineer not notified  Notice of no objection not received	No Transportation Plan and Risk Assessment
<b>2.19</b>  <b>Safety inspection Reports</b>	Daily, weekly and monthly inspections records maintained. Including Subcontract ors complete inspection reports.	Up to date, shows remedial action taken.	Up to date with good clear information. Well documented and dates of remedial action required, as/ when and submitted to Project Manager	Record of contractor's site Manager and supervisory Weekly inspection including sub contractor's activity carried out	Not up to date, or inspections missed.

### 3. Explosive Handling and Blasting

ACTIVITY	EXCELLENT	GOOD	AVERAGE	INSUFFICIENT	NON CONFORMA NCE
	[An Exceptional Standard] <b>10 Points</b>	[Exceeding the Norm] <b>8 Points</b>	[In line with OSHE Procedures] <b>6 Points</b>	[In Need of Improvement] <b>0 Points</b>	[Unsatisfactory] <b>-10 Points</b>



<b>3.1</b>  <b>Transport and handling</b>	<p>All means of entry guarded against entry blasting area</p> <p>Follow up briefings, recorded to show updates and change reviews. Engineer notified of change.</p>	<p>Reviewed more frequently than procedures dictate, i.e. prior to phase changes or weekly.</p> <p>Record of all briefings maintained. Signed proof of attendance maintained</p> <p>Explosives, blasting agents or detonators transported in securely covered cases or container that provide safety.</p>	<p>Reviewed monthly and up to date. All sections reviewed. Evidence of changes made. Engineer Notified</p> <p>Task Briefings carried for all Risk Assessments and Method Statements</p> <p>There is plan showing the type of explosive to use at the charging area</p> <p>Separate containers provided for transporting explosives , detonators or blasting , fuses</p>	<p>Not reviewed regularly or only going through the motions (i.e. no record of appropriate changes) Engineer not notified</p> <p>Notice of no objection not received</p> <p>Only the occasional RA/MA briefing carried out.</p> <p>Task briefing not conducted</p> <p>Notice of no objection not received</p> <p>No proper warning signs on the vehicle transporting the explosives</p>	<p>No audible signal sounded before firing activity</p> <p>No shot fires certificate recognised by government department</p> <p>No blasting Management Plan</p> <p>Provision as determined in the RA/MS not available on site</p> <p>No supervision</p> <p>Not following the RA/MS safe system of work methodology</p> <p>No blast board showing firing times displayed in a prominent location</p>
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<b>3.2 Magazine</b>	Danger explosives , no smoking , no naked flames signs in place Magazine doors securely locked	Earth strips fitted to each magazine initiators and explosive s stored separately	SOP for the disposal of old or damaged explosives	No records of explosive in and out available The magazine compound free from rubbish	No fire extinguisher in place No appointed person in charge of the Magazine No competent person for handling of explosives
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**4. Welfare**

<b>ACTIVITY</b>	<b>EXCELLENT</b> [An Exceptional Standard] <b>10 Points</b>	<b>GOOD</b> [Exceeding the Norm] <b>8 Points</b>	<b>AVERAGE</b> [In line with OSHE Procedures] <b>6 Points</b>	<b>INSUFFICIENT</b> [In Need of Improvement] <b>0 Points</b>	<b>NON CONFORMANCE</b> [Unsatisfactory] <b>-10 Points</b>
<b>4.1 Canteen &amp; or designated site eating areas</b>	Exceptional standards (i.e. using existing facilities) with additional facilities available (i.e. drinks dispensers cooked food etc)	Cleaned daily or more frequently as necessary.	Clean and tidy with lighting, adequate benches/ tables, facility for heating food, supply cups/ drinking water.	Untidy/grubby or cleaned by site labourer infrequently.  Overfull waste bins.	None or dirty inadequate facilities. Materials stored in canteen/eating area. No facility for heating food. Waste food left lying No clean canteen , floor is dust ,No loss and no gain policy not displayed No adequate rest room to all workers No illuminated and ventilated No free from Mosquito and biological agent No fan and seating arrangements provided for workmen adequately

<b>4.2</b>  <b>Toilets &amp; washing facilities</b>	<p>Exceptional standards (i.e. using existing facilities) with additional facilities such as showers, where a risk assessment of site activities warrants their provisions.</p>	<p>Exceptionally clean and towels provided. Soap, barrier cream etc provided.</p>	<p>Clean and tidy with running water, soap, flushable toilets, towels and facilities for ladies where in attendance.</p>	<p>Untidy/grubby. Small wash hand basins (not able to fit fore arms inside)</p>	<p>None or dirty, inadequate facilities i.e. too many person per available water closets. No washbasins. No access to toilet within 300m from worksite</p> <p>Toilet not cleaned properly and records not maintained</p> <p>No drainage system</p> <p>No enough no's of toilets available</p>
<b>4.3</b>  <b>Drinking Water</b>	<p>Easy accessible location to worker .Tank cleaned and well maintained</p>	<p>Six meters of away from washing place , urinal or latrine</p>	<p>Drinking marked in local language and water calibrated and displayed</p>	<p>Insufficient arrangement are made</p>	<p>No Drinking Water</p> <p>Quality of drinking is not good and not tested as per IS 10500 No laboratory test records</p> <p>Not 6m away from toilets and urinals</p> <p>No access within 200m from worksite</p>

**5. Site Tidiness (X 2)**

<b>ACTIVITY</b>	<b>EXCELLENT</b> [An Exceptional Standard] <b>10Points</b>	<b>GOOD</b> [Exceeding the Norm] <b>8 Points</b>	<b>AVERAGE</b> [In line with OSHE Procedures] <b>6 Points</b>	<b>INSUFFICIENT</b> [In Need of Improvement] <b>0 Points</b>	<b>NON CONFORMANCE</b> [Unsatisfactory] <b>-10 Points</b>
<b>5.1 General</b>	Outside the site perimeter and inside site standard of house keeping excellent.	Good standard of house keeping is evident on all parts of the site (internal and external)	First impression on arrival to site of good house keeping/ storage. No wrapping/bags left lying.	Materials moved to work areas and left opened and not returned to storage areas.	Access to storage is poor with tripping hazards. Material wrapping around site.
<b>5.2 Work Areas</b>	Records of daily inspection/ monitoring from site designated persons are available and actioned.	No waste materials left in work area at the end of the day. Regular inspections.	All waste debris is removed from work areas and left clean and tidy.	Waste/debris moved to areas/stored in one area for removal, however it remains a hazard.	No attempt of housekeeping control. Loose materials causing trip and fire hazards in areas.
<b>5.3 De-nailing</b>	Surplus timbers skipped or transferred for use elsewhere.	De-nailed timbers stacked tidily. All nails cleared away to skips.	Timbers to be nailed segregated .	Timber waiting de-nailing not segregated. Evidence of poorly maintained pallets, etc	Timbers left with protruding nails in open areas and on access routes.

<b>5.4 Storage</b>	Daily monitoring recorded. Very good standard of storage is evident.	Regular inspection. Good clear access. Stable accessible lay- down areas.	Materials returned to storage areas, dedicated lay- down area, applicable signage displayed.	Poorly stacked materials and stored in wrong position.  Safe movement of operatives not possible.	Material storage is uncontrolled & untidy, unstable.  Material storage blocking site access.  Materials stored in public area.
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**6. Fire Precautions**

<b>ACTIVITY</b>	<b>EXCELLENT</b> [An Exceptional Standard] <b>10 Points</b>	<b>GOOD</b> [Exceeding the Norm] <b>8 Points</b>	<b>AVERAGE</b> [In line with OSHE Procedures] <b>6 Points</b>	<b>INSUFFICIENT</b> [In Need of Improvement] <b>0 Points</b>	<b>NON CONFORMANCE</b> [Unsatisfactory] <b>-10 Points</b>
<b>6.1 Site Offices</b>	Daily checks recorded. Names of Fire Wardens identified at each fire point. Fire plan at each fire point.	Fire plan displayed in site offices/canteens. Fire point boxes in place.	Appropriate No's of extinguishers at marked fire points. Regular fire checks carried out.	Fire point not clearly identified. Fire extinguishers missing or out of date. Fire Warden checks incomplete	No extinguishers in place No Fire Warden checks carried out.

<b>6.2 Work Place Extinguishers</b>	<p>Daily checks recorded. Names of Fire Wardens identified at each fire point.</p> <p>Records of fire mock drill at site</p> <p>Records of fires incidents reported investigated and corrective action taken</p>	<p>Fire Plan displayed at exits and at fire points.</p> <p>Fire alarms adequate and free from obstruction</p>	<p>Minimum of 2 extinguishers stored in red box at marked fire points. Regular fire checks carried out.</p>	<p>Fire points not clearly identified. Fire extinguishers missing or out of date. Fire Warden checks incomplete.</p> <p>Insufficient records of recharge /refill frequency inspection and maintenance schedule of fire extinguisher</p>	<p>No extinguishers in place No Fire Warden checks carried out.</p> <p>No proper maintenance as per IS standards</p> <p>No fire points located in all locations of work, fire plan available and displayed at site.</p> <p>No records of awareness training on fire fighting</p>
<b>6.3 Hot Work Permits</b>	<p>Subcontractors provide records of monitoring Hot Work Permits issued daily.</p> <p>Warden records inspections daily.</p>	<p>Records of monitoring Hot Work Permits maintained by Site Manager.</p>	<p>Permits issued for all activities including Sub-contractors. All Hot Work Permits signed off and with end of shift inspections. Fire extinguishers are in place and housekeeping is good.</p>	<p>Hot Work Permits issued with incomplete sections. No monitoring of compliance of Hot Work Permit carried out.</p>	<p>No Hot Work Permit issued for hot work activities. House keeping poor where hot works are ongoing.</p>

<b>6.4 Conditions on Site</b>	Excellent house keeping. Records of daily monitoring available. Proof of monitoring is provided by the sub contractor.	Regular inspection and monitoring of site conditions.	House keeping is good with effective control of combustibles, paint, solvents, etc.	House keeping could be improved.	House keeping is poor and presents a fire hazard. Poor compliance from subcontractors.
<b>6.5 Storage of Flammables</b>	Proof of daily monitoring, records of monitoring by sub contractor  Operator provided with cutting goggle , body apron and other appropriate PPE's	Records of monitoring by Fire Warden. All material returned to store at the end of the day or after use.  Empty and full cylinder stored separately stored in secured upright position and fastened with chain  Gas cylinder stored in a well ventilated location  Adequate facility	Adequate storage facilities, materials controlled. Adequate signage. Extinguishers near to point of use. Good ventilation  Record of hose lead test  Hose clip and clamp provided  Calibrated double pressure gauges fitted and operable  Flash back arresters fitted on cylinder valve  SOP is	Storage facilities uncontrolled of left open. Poor signage. No extinguishers near point of use.  No ventilation.  No record of specific permit to work  Availability of Fire extinguisher and firewatcher	Containers / cylinders and drums (full and empty) lying around site. Excessive quantities on site. No suitable storage facilities.  No job based training  No Non return valves fitted on gas cutting torch  No records of checking cylinder expiry date and cylinders discarded if found not valid  No availability of

		available for storage of cylinder with adequate safety measures and availability of MSDS	available for loading and unloading of filled and empty cylinder at site		Wheel barrow for transportation of cylinders from store to work site
<b>6.6 Means of Escape</b>	Daily recorded inspection. Fire drills carried out at planned intervals and recorded. Review of drills recorded.	Regular inspection carried out with evidence of inspection.	Maintained clear and well signed. Included in induction	Minor obstructions, Poor signage.	Major obstructions. No signage, No emergency lighting.
<b>6.7 Relevant statutory signs</b>	Daily recorded inspection.	Regular inspections carried out. Reviewed with the Fire Plan.	Fully and clearly displayed. Included in induction	Some displayed	None displayed.

**7. PPE**

<b>ACTIVITY</b>	<b>EXCELLENT</b> [An Exceptional Standard] <b>10 Points</b>	<b>GOOD</b> [Exceeding the Norm] <b>8 Points</b>	<b>AVERAGE</b> [In line with OSHE Procedures] <b>6 Points</b>	<b>INSUFFICIENT</b> [In Need of Improvement] <b>0 Points</b>	<b>NON CONFORMANCE</b> [Unsatisfactory] <b>-10 Points</b>
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<p><b>7.1</b></p> <p><b>Safety Helmets</b></p> <p><b>(NOTE: Sikhs are exempt if wearing turban)</b></p>	<p>Induction records confirm that a satisfactory helmet or other headwear is brought to site. Records maintained for site issue</p>	<p>Spares available for short term visitors. Risk assessment available to support other headwear.</p>	<p>All persons are wearing safety helmets (or other form of approved headwear if applicable)</p>	<p>An occasional operative is not wearing a safety helmet.</p> <p>Helmet not to IS or BS standard</p> <p>Inadequate supply of safety helmet for use of staff , workers and authorised visitor's to the site</p>	<p>Numerous operatives, subcontractors and management are not wearing safety helmets. No safety Helmet Colour with logo as per 4.4.6.4.7 of MMR CER OHS&amp;E contract Requirement</p>
<p><b>7.2</b></p> <p><b>Footwear</b></p>	<p>Induction records confirm that satisfactory safety footwear is brought to site.</p>	<p>All visitors wear safety footwear unless risk assessment identifies safe to do so.</p>	<p>All persons are wearing satisfactory safety footwear.</p>	<p>An occasional operative including sub contractors is not wearing safety footwear.</p> <p>Inadequate supply of safety shoe for use of staff , workers and authorised visitor's to the site</p>	<p>Numerous operatives, subcontractors &amp; management are not wearing safety footwear.</p>

<b>7.3</b> <b>Hi Viz</b>	Induction records confirm that satisfactory Hi-viz clothing is brought to site. Records maintained for site visitors.	Spares available for short term visitors. Issued on site when not provided or found to be unsuitable.	All persons are wearing Hi-vis clothing to BS EN Standard.	An occasional operative is not wearing Hi-viz clothing.	Numerous operatives, subcontractors and management are not wearing Hi-viz clothing.
<b>7.4</b> <b>Safety Belt</b>	External Agency training conducted and records maintained	Spares available	All persons are wearing Full body safety harness with double lanyard to BS /IS/EN Standard.	An occasional workers working at height is not wearing Full body safety harness with double lanyard	Work at height PPE not inspected or tested e.g as per IS standards  No fall arrest equipment (Safety harness fall arrestor )Checked by competent person

**8. COSHH (Control of Substance Hazardous to Health)**

<b>ACTIVITY</b>	<b>EXCELLENT</b> [An Exceptional Standard] <b>10 Points</b>	<b>GOOD</b> [Exceeding the Norm] <b>8 Points</b>	<b>AVERAGE</b> [In line with OSHE Procedures] <b>6 Points</b>	<b>INSUFFICIENT</b> [In Need of Improvement] <b>0 Points</b>	<b>NON CONFORMANCE</b> [Unsatisfactory] <b>-10 Points</b>
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<b>8.1</b> <b>File maintenance</b> <b>Assessment Briefings</b>	Manufacturers hazard data (MSDS) from supplier included in the assessment. Proof that operatives fully understand briefing content (i.e. signed assessment for questionnaire)	Good clear filing system available & corresponds to Hazard & Risk Register. Name of competent Co-coordinator displayed or in named in induction.  Records obtained from sub contractor of assessment briefings.	All substances identified in the Hazard Log & Risk register. File maintained Suitable assessment carried out. Competent person designated as coordinator. Good clear records available of briefings carried out to operatives. Persons briefed identified.	Poorly maintained file. Incomplete or difficult to identify substances, etc. Occasional assessment carried out.  Poorly kept or incomplete records of briefings, unable to read names, etc.	Not included with Hazard Log & Risk Register. File has not been developed adequately. No assessments carried out.  No assessment briefings carried out.
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**9. Plant (X2)**

<b>ACTIVITY</b>	<b>EXCELLENT</b> [An Exceptional Standard] <b>10 Points</b>	<b>GOOD</b> [Exceeding the Norm] <b>8 Points</b>	<b>AVERAGE</b> [In line with OSHE Procedures] <b>6 Points</b>	<b>INSUFFICIENT</b> [In Need of Improvement] <b>0 Points</b>	<b>NON CONFORMANCE</b> [Unsatisfactory] <b>-10 Points</b>
<b>9.1 Planning</b>	Every item of plant is subject to planned maintenance and inspection. All such test & inspections are recorded.	Plans available for siting of plant including ground conditions i.e. underground services, etc. Daily user inspection Sheet signed by	Suitable equipment for the task as per RA/MS. Competent operator Plant certificate displayed. Weekly Inspection Sheet signed by competent	No records of equipment issued to operatives No checks on condition of equipment No maintenance records	Poorly maintained equipment on site. Poor condition of equipment & plant.

		competent person.	person.		
<b>9.2 Lifting Appliances and Lifting Gear Register</b>	Chart showing test expiry or other scheme for displaying status of items.  Daily monitoring/ pre use records.	Up to date And schedule of competent Authorized Users displayed.	Up to date. All plant weekly checklists fully completed within inspection schedule.	Incomplete records or some items expired/ out of date.	No records, or difficult to find paperwork.
<b>9.3 Plant and machinery inspection</b>	Maintenance and/or hire status records on site, equipment all risk assessed.	Up to date, Shows remedial action taken, Some equipment specific risk assessments.	Fully complete including Sub contractor equipment. Use considered in task risk assessments.	Not fully complete (i.e. Sub contractor records missing.	None existing, no risk assessments.  No pre inspection records of plant and machinery
<b>9.4 Vehicle Control</b>	Vehicle drivers having valid and current licence and all legal documents available at site wheels washed bay in operational and maintained	Vehicle with reverse horn Under control of banksman	Vehicles leaving site carrying load covered at site with securely sheet before leaving the site  All drivers over 21. Complete records available of trained operators. Competence checks done e.g. by assessment	Few of medical fitness done for operators Vehicles are overloaded Insufficient fire extinguisher and First aid box  Few construction equipment operators and Banks man are trained	Vehicle drivers not having valid and current licence and No legal documents No wheels washed bay  No construction equipment operators and Banks man are trained

<b>9.6 Competent Personnel</b>	Records show the operators certification and date of expiry.	Records collated into easy read sections i.e. dumper operators , MEWP operators, crane operators, etc.	All drivers over 21. Complete records available of trained operators. Competence checks done e.g. by assessment	Incompatible cross-referencing of operator certification with on site records.  No records available  Few of lifting operations operators and lifting Supervisor , slinger , riggers are trained	Operators driving plant without third training certificate. Drivers not aware of hazards. Associated with equipment. No lifting Supervisor , No slinger , No riggers are trained
<b>9.7 On Site Traffic Management</b>	Banks man in attendance at all times with working plant. Banks man controls pedestrian movements	Barriers erected Specific access for pedestrians marked.  Continual monitoring in place	Working equipment is segregated with crush zone identified. All movements under control of Banks man	No segregation of working plant Free access to crush zone. Vehicles reversing with no Banks man	No banks man in attendance during plant movements or operations,
<b>9.8 Guarding Arrangements</b>	Inspection records of each particular piece of plant or	Operatives report faults and damage to site management	All guards are in place as per the manufacturer's information i.e.	Guards loosely fitted or makeshift guards with	Guards missing from machinery, visible signs of tampering of
	equipment are available in site records.	who take action.  Written evidence required	no in running nips, guards in place on bench saws, piling, soil investigation machinery etc.	incorrect fittings.  Working / Risk areas not barriered off around machinery.	guards, untrained operatives. Plant poorly maintained.

<b>9.9 Vehicle Checks</b>	Manageme nt monitor checklists/ act on reports.	Daily pre- use checks completed by operators.	Vehicle registers complet ed weekly.	Registers not completed weekly (hit and miss)	Vehicle registers not maintained.
<b>9.10 Lifting Operation (Lifting Appliances and Lifting Equipment)</b>	Date of certification expiry displayed on chart within site office.	File available with sections i.e. dumpers, MEWP, cranes, etc. All sections of plant checklists completed and faults rectified.	Test and thorough examination certificates are available on site All relevant plant checklists fully completed	3 monthly test Certificates not available for cranes to BS7121. Only load test undertaken for cranes. No instruction Manual No calibration certificate for monitoring equipment as per the manufacture No checks of lifting equipment on site by Crane Co- coordinator. Faults recorded but not actioned within a reasonable time	Operators using plant without 3RD party test and thorough examination certificate or certificate expired.  Cranes not tested as per ER OHS&E MMRC Line 3 projects not tested as per MMRC Line 3 projects Crane age more than the required IS standards and No special assessment test conducted No ASLI, No Load radius indicator, No motion limit devices, No over load cut-off device ,No level Indicator , Cut off device , No anemometer , No machine
					guarding , No safe working load charts .

<b>9.11 Safe Use</b>	Team briefings carried out with management and operators as a proactive role rather than reactive. Record of briefings, meetings, etc.	List of authorised drivers and operators kept up to date. Record of equipment issued to and used by authorised persons.	Inspections show that plant is being used safely. Rules are being observed by operators.	No communication between teams doing different work within same area.  Daily checks not showing faults. Banks man not present.	Plant operators driving too fast. Seat belts not used by operator. No stop blocks near excavations. Reckless operation, i.e. digging in close proximity to workers.
<b>9.12 Lifting Gear</b>	Date of expiry displayed of lifting equipment examination on chart.  Records of inspections available	File with sections related to lifting gear.  Storage facilities available for equipment  Weekly inspections completed	All lifting gear thoroughly examined every six months (certificate). All equipment stamped with ID Number and or colour coded  Daily user check	No checks of lifting gear on site by lifting supervisor and plant in charge.  Faults recorded but not actioned within a reasonable time	No lifting gear thoroughly examined every six months (certificate). Badly worn slings on site. Badly stretched chains on site, etc. Wrong lifting gear used for lifting.
<b>9.13 Suitability and Specific PPE</b>	Assessed regularly, monitored, topic for tools box talks.	Suitably documented, specified in assessment.	Specified in risk assessment and utilised on site.	Some specified, suitability not assessed for environment.  Reliance on PPE rather than permanent protection e.g. edge protection	None specified applicable standard missing.

<b>9.14 Permits</b>	<p>Subcontractors provide records of monitoring Lifting Permit issued daily.</p> <p>Lifting supervisor, plant Manager records inspections daily.</p>	Records of monitoring Lifting Permit maintained by plant Manager.	Permits issued for all activities including Sub-contractors. All Lifting Permit Permits signed off and with end of shift inspections.	Lifting Permit Permits issued with incomplete sections. No monitoring of compliance of Lifting Permit carried out.	Lifting Permit issued for all lifting work activities.
<b>9.15 Welding Machine</b>	Operator provided with face shield, body apron and other appropriate PPE's	Separate main power switch, ground connection and protection shed for weather	Electrode holder properly insulated and facility provided for storage of welding electrode buds Presence of voltmeter and ammeter on the machine and functional	<p>No checks of welding leads &amp; return cable free from defect</p> <p>No record of specific permit to work</p> <p>Availability of Fire extinguisher and firewatcher</p>	<p>Welding machine not in good order</p> <p>No job based operator training</p> <p>No Double earthing to welding machine</p> <p>No separate earth connection from work piece to transformer and supply to welding machine</p> <p>From rated RCCB/ELCB</p>

**10. Excavations(X2)**

<b>ACTIVITY</b>	<b>EXCELLENT</b> [An Exceptional Standard] <b>10 Points</b>	<b>GOOD</b> [Exceeding the Norm] <b>8 Points</b>	<b>AVERAGE</b> [In line with OSHE Procedures]	<b>INSUFFICIENT</b> [In Need of Improvement] <b>0 Points</b>	<b>NON CONFORMANCE</b> [Unsatisfactory] <b>-10 Points</b>
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			<b>6 Points</b>		
<b>10.1 Planning</b>	<p>Training/briefing of safe system of work carried out before works commence.</p> <p>Records maintained of such briefings</p>	<p>Inspection requirements specified with necessary supervision appointed to ensure compliance with safe system of work, e.g. inspection required every shift. (2 per day)</p>	<p>All necessary equipment on site before works commence.</p> <p>RA/MS in place &amp; reviewed.</p> <p>Team briefings carried out &amp; recorded.</p>	<p>Works ready to start and not all equipment is on site/in place. Poor access into the excavation . Using makeshift ladders or no ladder. No permit to dig in place where new excavation planned</p>	<p>Works are ready to commence however the RA/MS is not on site and not been reviewed by ER.</p> <p>Surveys not carried out</p>
<b>10.2 Excavations Register</b>	<p>Daily monitoring records per shift.</p>	<p>Up to date and records in place to demonstrate preventative actions.</p>	<p>Up to date and record of defects and corrective actions maintained.</p>	<p>Up to date and signed but with outstanding actions.</p>	<p>Not up to date, or shift inspections missed.</p>

<b>10.3</b> <b>Provision of Service Locators</b>	Information from service providers available to identify line of service.	Plans developed to ensure comprehensive coverage of area.	Correct cable (and certificate) avoidance tool on site. Operators trained in its use.	Cable avoidance tool available, no calibration certificate on file.	No cable avoidance tool on site. Untrained operators using equipment.
<b>10.4</b> <b>Underground Service Identification</b>	Task training carried out before works commence (proactive) and recorded.	Operatives briefed. All experienced operatives' supervision.	Existing Plans available on site. Permit to work in use.  Safe system of work followed	Permit to work not in place.  Supervisors / Operatives not complying with safe system of Work MS/RA	Safe system of work RA/MS not available or not completed. Not submitted to ER for notice of no objection
<b>10.5</b> <b>Edge Protection</b>	Regularly monitored and recorded.	Sketch included in method statement.	Physical barrier in place/ used and suitable.	Inadequate edge protection e.g. only soft when fixed is required	No barriers in place.
<b>10.6</b>	Deleted				
<b>10.7</b> <b>Competent Workface</b>	Regularly monitored and recorded. Re-briefing of changes.	Operatives briefed in system of work. Records of briefing and training available.	Trained operatives Works carried out in accordance with the MS/RA	Operatives not familiar with the approved MS/RA.	Works not carried out in accordance with the approved safe system.

<b>10.8 Temporary Work Assessment</b>	Safe Working Procedures established and communicated to supervising	Temp works coordinated or designated	Design Assessment in place. RA/MS incorporates recommendations of design	Design assessment findings not incorporated into RA/MS	No Temporary work procedure  No design assessment
	staff. Records available		assessment		ent
<b>10.9 Safe Working Procedure</b>	Recorded inspections as per schedule.	RA/MS reviewed as work progresses, records maintained.	RA/MS in place and followed.	Verbal procedure only.  Unsafe acts & conditions on site.	No RA/MS
<b>10.10 Excavation Work Permit</b>	Records maintained, regular monitoring and recorded inspection of permits	Permits contents communicated to operative, sign off procedure in place.	Permit in place issued for relevant operatives, fully completed.	Permit in place not fully completed and signed off.  No specific permit to work	None in place, unsafe acts/conditions.

**11. Electrics**

<b>ACTIVITY</b>	<b>EXCELLENT</b> [An Exceptional Standard] <b>10 Points</b>	<b>GOOD</b> [Exceeding the Norm] <b>8 Points</b>	<b>AVERAGE</b> [In line with OSHE Procedures] <b>6 Points</b>	<b>INSUFFICIENT</b> [In Need of Improvement] <b>0 Points</b>	<b>NON CONFORMANCE</b> [Unsatisfactory] <b>-10 Points</b>
<b>11.1</b> <b>Condition of Site Distribution</b>	Site Electrical single line layout drawing available. All faults detected & actions taken Name and contact	Maintenance schedule available and followed to monitor condition of electrical distribution on site.	Designed, installed, commissioned, tested, maintained by competent person.	Poor condition, frayed. No record of inspections.  Loose cables on the ground.	Distribution not to standard IP65 IEEE 17 <sup>TH</sup> Edition.  No double earthing  No inspection Tag

	person posted on main distribution board				No earth measurement register
<b>11.2 Overhead Lines Identified</b>	Monitor compliance daily.  Maintenance schedule to monitor defects in control measures.	All works carried out to Code of Practice.	RA/MS completed agreed by local electricity authority.  Signs and barriers in prominent position. Briefings to plant operators	Overhead lines identified however poor maintenance of goalposts, barriers, etc.  No briefings to plant operators	Not included within Hazard Risk Logs  Not goal-posted. No contract made with local electricity company. Machines running under unidentified overhead lines.
<b>11.3 Storage and Use of Power Tools</b>	Good clear use of registers. Schedule of inspection periods displayed. Evidence of equipment being in good order, clearly identifiable and	Rechargeable tools used preferentially.  Authorised users identified.  Manufacturer	All portable electrical appliance permanently numbers including sub-contractor  Register of tools on site. Secure storage.  Inspection of	In complete register.  No inspection records of daily, weekly and monthly or inspection of power tools	No records.  No procedures in place for issue and authorised use.  Poor inspection

	being used correctly by trained, authorised person. Task assessment sheets confirms condition check before use.	data used to assist in training.  Equipment in good condition.	competent person &  Authorised issue and return.  Use of 110v (preferable).  Inspection, maintenance and defect withdrawal schemes. Trained used, VWF, noise and PPE managed.	carried out by  Non-qualified person	reg condition of tools.
<b>11.4</b> <b>Condition of Electrical Equipment</b>	Subcontractors provide records of inspection and procedure to remove faulty equipment found on site.	Maintenance schedule/hire status record available to monitor condition of electrical equipment on site and completed.	Equipment secured in safe position. All cables labelled and in good condition. All equipment maintained as maintenance schedule	No inspection of maintenance schedule.  No records of inspections	No Procedure.  Poorly maintained equipment, cables frayed, bad connections, broken units. No record of inspections.  No RCCB provided to all power boards

<b>11.5 Competent Persons</b>	Training records on site of competent persons.	Competent person identified on site notice board.	Competent person C licence appointed for inspections and tests etc. Including Sub contractor activity	Untrained person carrying out inspections.	Untrained persons carrying out electrical tests.
<b>11.6 Work Permit</b>	Records maintained, regular monitoring and recorded inspection of permits	Permits contents communicated to operative, sign off procedure in place.	Permit in place issued for relevant operatives, fully completed.	Permit in place not fully completed and signed off.	None in place, unsafe acts/conditions.
<b>11.7 illumination</b>	Register available for illumination and regular update	Light fittings installed & lay out plan, pole number displayed and sufficient illumination maintained at site	Periodical cleaning and replacement of light fittings /lamps  Pole height maintained as per legal requirements	Insufficient illumination level at site	Poor illumination level
<b>11.8 Distribution &amp; Electrics</b>	Records of weekly inspections and monthly audit.	Up to date and good records of corrective actions and changes recorded.	Inspections in date and certificates available.	Up to date, but information poorly recorded.	No inspections missed/ test date expired and No monthly Electrical Audit

**12. Work at Height(X2)**

<b>ACTIVITY</b>	<b>EXCELLENT</b> [An Exceptional Standard] <b>10Points</b>	<b>GOOD</b> [Exceeding the Norm] <b>8 Points</b>	<b>AVERAGE</b> [In line with OSHE Procedures] <b>6 Points</b>	<b>INSUFFICIENT</b> [In Need of Improvement] <b>0 Points</b>	<b>NON CONFORMANCE</b> [Unsatisfactory] <b>-10 Points</b>
<b>12.1 Planning</b>	Evidence of preplanning carried out of future high- risk activities by site management team including subcontractors before work commences . Access to ladders controlled by site management. Policy displayed or included in CSHP.	Tower scaffolds, MEWP in use in place of stepladders/ladders and shown on RA. Monitoring in place to ensure compliance with safe system of work.  Risk assessments justify use of stepladders etc.	Suitably protected working platform (minimum 600mm fully boarded) has been provided.  Scaffolders handover certificate on site.	Stepladders or ladders are in use where tower scaffolds or MEWP would be more suitable.  No monitoring for compliance with safe system of work.	No procedure available (with notice) No RA showing hazards or risk of operatives falling.  Operatives working without protection in place.  No training records on working at height and use of safety harness
<b>12.2 Scaffolding Register</b>	Daily monitoring records.	Up to date and records in place to demonstrate preventative actions.	Up to date and record of defects and corrective actions maintained.	Up to date and signed but with outstanding actions	Not up to date inspections missed.



<b>12.3 Ladder Access</b>	Written record of inspection, defects, etc. produced By subcontractors before work commences .	Ladders show ID mark. Written record on inspection, defects, etc.  Self-closing safety gate used on access platform.	Base is firm, level. Clear of excavations Set at 1-4, Lashed at two stiles.  Clear access onto ladder and minimum 1m above platform landing	Ladder secured at only onepoint.  Obstructions at base, Incorrect ladder tie used, Ladder set at wrong angle.	Ladders too short, ladders unsecured, Damaged ladders, Poor access to ladder, Access onto platform is poor  No ladder register
<b>12.4 Scaffolding</b>	Well maintained	Scaff-tag system in place at prominent	All components	Scaffold inspection not	No Handover
<b>General</b>	scaffold  Red Scaff-tag in use and enforced by supervisors  Action taken, monitoring.	locations and at all access points to the scaffold.  Inspections and handover completed upon adaption.	correct and in place.  Inspections all in date with register completed.  Handover certificate signed by competent person with working load stated.	in date or not completed  Scaffold not protected from vehicle strike  Supporting concrete pump pipe- work without vibration and load assessment undertaken.  No pre-load check( where	Certificate.  Operatives working off incomplete platforms.  No competent scaffolders.  Poor Standard of erection; Bamboo or wood in use, boards and rails missing, no access, not plumb, missing bracing, damaged equipment in use or not to standard.

				applicable)	Not erected to design (where applicable)
<b>12.5 Scaffold access Towers and Platforms</b>	Pre-Use checks undertaken daily and inspection recorded	Register of equipment maintained.  Scaff-tag in use  Platforms used wherever practicable (in preference to ladders)	Erected correctly  All inspections completed record of inspection, defects, etc. maintained.	Platforms used but not assembled correctly such as missing bracing.  Damaged equipment in use  No pre use inspection  Operatives making adaption when not qualified	No RA carried out showing hazards or risk of operatives falling.  Erected by unqualified persons  Base to height width not correct causing instability  Operatives working without edge protection in place.
<b>12.6 Edge Protection and Toe-boards</b>	Written record of inspection, defects produced weekly by subcontractor and before work commences.	Registers show records of inspections of components i.e. checking for defects.	All in place and secure, i.e. double guardrail in place. A main guard rail at least 1 meter above the edge , toe board at least 200 mm high and intermediate guard rail no gap more than 470 mm	Poorly recorded register i.e. not showing defects or edge protection missing, but no persons working on platforms.	Areas of edge protection missing. Operatives working on incomplete platform. Toe- boards missing

<b>12.7</b> <b>Competent Persons</b>	Advanced scaffolder is the supervisor on site.	Training records held for persons erecting scaffolding under supervision (trainees)	Scaffolds erected by trained scaffolders.  Certification of all training records on site match scaffolder on site.	Cross referencing of scaffolders names do not match with training records in site records.	Untrained scaffolders erecting scaffold without trained supervisor present. No training records available in site records.
<b>12.8</b> <b>Other Precautions, Ladders, Stepladders, MEWPs</b>	Induction talks, tool box talks and other briefings with subcontract management on the safe system of work prior to works commencing.	Registers show records of inspections of components i.e. checking for defects.	Operatives complying with the approved Risk Assessment/Method Statement for work at height	Operatives using the equipment incorrectly, over reaching, over-stretching.	Operatives using ladders or steps, when the RA states MEWPs will be used  No competency certificate of MEWP & Scaffold erection supervisor
<b>12.9</b> <b>Temporary work Assessment</b>	Daily monitoring recorded tool box talks.	Full assessment, controls communicated, inspection records.	Assessment completed. Controls reasonable. Erected as per design. Pre-load check completed	Assessment completed not covering all the issues.	None completed.  No pre-load check.  Not following design  No ER Notice

<b>12.10</b> <b>Recorded Inspections</b>	Fully recorded and monitored at regular intervals, topic for tool box talks.	Fully recorded at regular intervals.	Completed as per legal requirement and OSHE Volume 1 & 2	None recorded, visual inspection only not comply with volume 1 & 2.	None completed unsafe acts/conditions.
<b>12.11</b> <b>Work Permit</b>	Records maintained , regular monitoring and recorded inspection of permits	Permits contents communicated to operative, sign off procedure in place.	Permit in place issued for relevant operatives, fully completed.	Permit in place not fully completed and signed off.	None in place, unsafe acts/conditions.

**13. Floor Openings**

<b>ACTIVITY</b>	<b>EXCELLENT</b> [An Exceptional Standard] <b>10Points</b>	<b>GOOD</b> [Exceeding the Norm] <b>8 Points</b>	<b>AVERAGE</b> [In line with OSHE Procedures] <b>6 Points</b>	<b>INSUFFICIENT</b> [In Need of Improvement] <b>0 Points</b>	<b>NON CONFORMANCE</b> [Unsatisfactory] <b>-10 Points</b>
<b>13.1 Planning</b>	Planned works include fixing of manufacturers cover in place when work is completed. Discussed in toolbox talks and inductions.	Briefing with operatives on the safe system of work before works commence. Records maintained	Suitable and sufficient risk assessment and method available with Notice from ER.  Controls incorporate design assessment results	Inadequate Risk Assessment , does not incorporate the controls as specified in the design assessment  Inspections not carried out or recorded.	No Risk Assessment carried out showing physical barriers or risk of operatives falling into hole. Design assessment does not incorporate falls from height
<b>13.2 Provision of Protection</b>	Daily monitoring recorded.  Sub-contractor's supervision management include inspection in their weekly report.	Daily inspections carried out, recorded and action taken immediately where deficiency found.  Operatives briefed on early reporting where fault noticed	Physical protection has been provided i.e. two guardrails, toe-boards, signs fixed hole cover and barriers, covers are load bearing.	Guardrail in place but insufficient i.e. only one guardrail and toeboard in place, poor signage displayed. Rail does not take weight of a fall	Pallets used as covers, ply sheeting used as covers, pieces of ply used as covers, scaffold boards provided but unsecured, no supports, openings left open.

<b>13.3 Relevant Signage</b>	Safety signs monitored daily and recorded. Changed as work progresses.	Signs clearly visible and comprehensive. Regularly monitored until opening permanently closed.	Adequate warning signage in place before works start.	Incomplete or unclear signage in place.	No signs in place.
<b>13.4 Work Permit Procedure</b>	Records maintained, regular monitoring and recorded inspection of permits	Permits contents communicated to operative, sign off procedure in place.	Permit in place issued for relevant operatives, fully completed.	Permit in place not fully completed and signed off.	None in place, unsafe acts/conditions.

**14. Deleted****15. Site Management & Supervision**

<b>ACTIVITY</b>	<b>EXCELLENT</b> [An Exceptional Standard] <b>10 Points</b>	<b>GOOD</b> [Exceeding the Norm] <b>8 Points</b>	<b>AVERAGE</b> [In line with OSHE Procedures] <b>6 Points</b>	<b>INSUFFICIENT</b> [In Need of Improvement] <b>0 Points</b>	<b>NON CONFORMANCE</b> [Unsatisfactory] <b>-10 Points</b>
<b>15.1 Resources</b>	All management staff are direct employees. An assessment of the supervisory resources necessary has been carried out and findings implemented.	Relief supervisory staff available as required.  Duties hours including travel time (to camps) are within the maximums working times.	Site Manager available at all times Duty hours  Key duty holders available at all times.  Good shift rotation	Sub-contractors supervisors only.  Key duty holders not always available.  Operatives working excessive shifts (12 Hours Maximum)	No supervision on site  <b>NOTE:</b>  <b>THIS WILL RESULT IN AN IMMEDIATE STOP WORK</b>  <b>(SCORE-20)</b>

<b>15.2 Monitoring</b>	Regular Monitoring by senior management.	Regular monitoring by Project Manager.  Own KPI's established. Monitoring Equipment calibrated as per manufactures requirements and test certificate available at site	Site inspection of the plant and equipment inspection .Plant and Equipment , Electrical site monitoring exercises on a daily and weekly basis	Irregular monitoring, not following schedule. No procedure mentioned in SOP for inspection , testing and maintenance	No site auditing. Not submitted report on or before 7 <sup>th</sup> of each month to Engineer
<b>15.3 Action on Safety Advisers Reports</b>	Evidence of actions to prevent recurrence of unsafe conditions available. Evidence of disciplinary action taken.	Record of liaison with subcontractors to correct unsafe practices. Reports include proposals for preventative action.	All matters raised in last report rectified. Last report sent to Project Manager. Action column signed off/dated.	Some items raised on last report rectified however items of less serious nature reported again (repeat item)	Matters on last report ignored, not rectified, repeat items recorded on report. Failure to action recorded.
<b>15.4 OHS&amp;E Committee</b>	Safety Awareness programme for workers conducted on monthly.	Safety budget discussed reviewed and updated Meetings	Monthly inspection carried out by Chairman of Safety	Agenda cover only limited points and accidents statics is discussed and Meetings held	No record of Safety Committee Meetings or site safety meetings.

	<p>Awards to subcontractors or individuals on safe working practices. Near miss reporting scheme. Near misses recorded at the Meetings and action taken. Health and Safety posters displayed on walls, Newsletters. Booklets etc. videoed at induction</p>	<p>held more frequently i.e. weekly. Reports from Safety reps, Sub-contractors safety adviser reports available and shown action taken. Some posters displayed.</p>	<p>Committee and records of inspection carried by committee members. Minutes issued within 2 days to the members. Minutes posted on all sites within work force area in both Hindi/Marathi and English. Lockable site suggestion box posted as per 4.4.3.4.4 of MMRC ER OHS&amp;E line 3</p>	<p>monthly including actions/timescales. Safety reps identified and understand their duties. Information discussed at the Meeting distributed to site operatives and displayed at site notice board.</p>	<p>Safety Committee, site meetings held infrequently, no action/timescales noted on the minutes. No subcontractor and. No work force attended meeting</p>
<p><b>15.5</b></p> <p><b>External OHS&amp;E Audit</b></p> <p><b>Quarterly</b></p>	<p>All audit points complied and briefed to Management staff</p>	<p>Management involved in audit</p>	<p>Limited audit observation complied. No management review report</p>	<p>Audit not conducted each quarter.</p> <p>Audit conducted. Follow up audit not carried out within 28 days</p>	<p>No External OHS&amp;E Audit</p> <p>Quarterly conducted or report not submitted to Engineer Within 7 days of audit completed</p>



<b>15.6</b> <b>Management Review</b>	Management reviews undertaken annually	The Management Review Report Recommendations implemented	Report submitted to Engineer	The contractor not submitted Management Review Report to Engineer within 7 days after meeting completed	No formal Management Review
<b>15.7</b> <b>Incident Reporting</b>	Near misses and minor accidents Also investigated And communicated by Safety alert  Records	Contractor reports accidents, incidents and dangerous occurrences to governing bodies as per statutory obligations	Detailed investigation report within 48 hours of investigation completed submitted to Engineer	Preliminary accident report not submitted to Engineer within 12 hours	No information to Engineer via SMS for accident, first aid injury, near miss, dangerous occurrence  No System available for
	available on investigation recommendation implemented at site to avoid recurrence of incidents and accidents  Availability of RCA/CAPA on accident/incident	All near misses incidents and accidents reported and investigated  Accident statistics maintained and updated	Record available for accident statistics effectively utilized to avoid similar incidents/accidents  Root cause analysis done for all incidents and accidents 7 investigation records maintained		classification and analysing the near miss incidents and accidents occurred at site  No accidents and incidents notified to Engineer

<b>15.8 Engineer's Non-conformance Report</b>	All NCR raised by the Third party .The contractor submitted action plan with time scale within two weeks to be closed	Contractor's Raised internal NCR as per their Quality Management System	Corrective action and preventative identified as per 4.5.3.2.5 of MMRC Line 3 ER OHS&E contract Requirement	Few NCR action taken and No evidence of compliance	No action on Engineer NCR
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**16. Noise**

<b>ACTIVITY</b>	<b>EXCELLENT</b> [An Exceptional Standard] <b>10Points</b>	<b>GOOD</b> [Exceeding the Norm] <b>8 Points</b>	<b>AVERAGE</b> [In line with OSHE Procedures] <b>6 Points</b>	<b>INSUFFICIENT</b> [In Need of Improvement] <b>0 Points</b>	<b>NON CONFORMANCE</b> [Unsatisfactory] <b>-10 Points</b>
<b>16.1 Identification of Sources</b>	Regular review of sensitive receptors.	Information on Limit/exposure levels held on site.	Sources identified, assessments completed	Ear muffs/plugs not provided to Workmen and staff .No employees training and frequency of training not identified.  Sources documented, assessments not completed	None recorded in Hazard & Risk Log or Aspect Impact assessment

<b>16.2</b>  <b>Provision of Silenced Equipment</b>	Maintenance and test certificates maintained for machinery	DBA frequently checked. Noise monitoring equipment available and calibrated	Equipment silenced to acceptable levels  Machine provided with acoustic material and display of signage's control been implemented to reduce noise exposure below the permissible limit	Identified in Hazard & risk log but not implemented throughout. Some provided but do not cover all risks	Not identified in Hazard & Risk logs. Not provided in areas where noise levels are exceeded and near sensitive receptors.  Machines generating excessive noise available work site
<b>16.3</b> <b>Monitoring</b>	Noise levels from equipment checked and recorded daily	Frequent checks, records maintained.	Noise levels monitored calibration records on site.	Equipment on site, Irregular checks made no calibration records	No base line monitoring conducted as per monitoring plan  None carried out

**17. Occupational Health**

<b>ACTIVITY</b>	<b>EXCELLENT</b> [An Exceptional Standard] <b>10 Points</b>	<b>GOOD</b> [Exceeding the Norm] <b>8 Points</b>	<b>AVERAGE</b> [In line with OSHE Procedures] <b>6 Points</b>	<b>INSUFFICIENT</b> [In Need of Improvement] <b>0 Points</b>	<b>NON CONFORMANCE</b> [Unsatisfactory] <b>-10 Points</b>
<b>17.1</b> <b>HAV's Register</b>	Records signed off daily, usage monitored, equipment well maintained.	List of competent operatives attached. Tool box talks completed	All equipment recorded, usage time/Trigger times recorded  Operatives checked for signs and symptoms	Basic register requires updating not all equipment on register	Not maintained
<b>17.2</b> <b>Malaria , Dengue , Silicosis, Skin Cancer , HIV AIDS , Leptospirosis , Tetanus and Hepatitis Information</b>	OCC health, exposure controlled monitored and recorded  Comprehensive information, contact numbers provided, controls monitored with records	Procedure established information displayed, controls implements, dust suspension in place. Tool box talks completed.	Procedures in place. information provided fully assessed  Educational programme scheduled and implemented. Liaison person nominated	Minimal information, mentioned in policy  Minimum dress, part of site rules, information provided	None procedures available  No information provided in both Hindi/Marathi and English

**18. Training & Induction**

<b>ACTIVITY</b>	<b>EXCELLENT</b> [An Exceptional Standard] <b>10 Points</b>	<b>GOOD</b> [Exceeding the Norm] <b>8 Points</b>	<b>AVERAGE</b> [In line with OSHE Procedures] <b>6 Points</b>	<b>INSUFFICIENT</b> [In Need of Improvement] <b>0 Points</b>	<b>NON CONFORMANCE</b> [Unsatisfactory] <b>-10 Points</b>
<b>18.1 Management Competency</b>	Audit/inspection training. Competency formally assessed	Records of retraining whenever new hazards introduced. Knowledge of SMS training (project, site and corporate arrangements)	Involvement of senior management personnel in safety and health training and records	Enough infrastructural facilities with Audio-visual support are available  Availability of Monthly training schedule and Matrix. Records of training submitted to GC as per approved training implementation plan	No training programme is prepared in consultation with department heads  No formal management / No supervisory training  No induction./No JV ID card with authority sign and validity
<b>18.2 Staff</b>	Additional training needs identified specific to role. Competency formally assessed	Skilled in the area supervising	Skills training completed , inductions completed , all recorded on site. cards held, Fire training , FirstAiders	Only some have attended the supervisors course	None attended supervisors course  No induction./No JV ID card with authority sign and validity

<b>18.3 Operatives</b>	Additional training needs identified specific to role. Competency formally assessed	Fire training and first aid training completed for specific individuals	Defensive driver training all recorded on site. Operatives received formal training in role needs.	Only some have attended safety training. Persons undertaking tasks or role for which no formal training has been given	None trained  No induction./No  JV ID card with authority sign and validity
<b>18.4 Training Programme</b>	Programme of additional training needs maintained. Implementation schedule attainment	Programme Regularly reviewed And updated. Implementation standard monitored and	Programme maintained for induction, safety skills and competency. Health HIV	Only some Training programme completed  Few of worker/operator	No training procedure or programme  No training plan for 96 hours for workmen and
	reported monthly  Document system established for safety and health training	reported on. 96 hrs training presentation covers site rules , hazard communication and other special safety rules specific to the project requirements	AIDS. Equipment training for operatives, Worker trained in Fire fighting Involvement of senior management personnel in safety and health training	completed refresher training	staff  No monthly training schedule and matrix. No Records of training as per training implementation plan
<b>18.5 Specific Training Competency Certificate</b>	All competency Records maintained on site. Records match task undertakings	Competency assessment carried out by contractor prior to working. Records of	Person undertaking skilled role have competency certificates	Formal qualification certificates only held for some skilled applications	No formal training certificates held for high risk roles e.g. scaffolding, Banksman, Lifting Supervisor ,

		assessment maintained	and formal training e.g. welders, slinger signallers and refresher training conducted at least every three months		slingers, plant operator and crane operators
<b>18.6 Toolbox Talks</b>	Topics pre-selected attendance sheets completed and signed off by attendees, topics debated	Regular T.B.T's programmed proactive and records maintained	T.B.T's held but tend to be reactive, no programme	T.B.T's planned but none carried out	No T.B.T's held or planned.
<b>18.7 OHS&amp;E Induction Training</b>	New Visitor to site , induction, ID card and communicated to Engineer /MMRC	All workforce and Management staff with OHS&E induction Hank book provided	Records of all inductions maintained	Limited induction training as per 4.4.2.3.6 of MMRC line 3 OHS&E ER requirements and limited number of workforce and management staff with OHS&E induction Hank book provided	No induction training as per 4.4.2.3.6 of MMRC line 3 OHS&E ER requirements. No JV ID card with authority sign and validity No work men , staff training assessment records

		<b>TIDEL PARK LTD CHENNAI</b>	
<b>EMERGENCY RESPONSE PLAN CONTENTS</b>			
<b>Contractor Name</b>			
<b>Project Name</b>			
<b>1</b>	<b>Project Highlights</b> <ul style="list-style-type: none"> <li>i. Title of the content</li> <li>ii. Contractor Number</li> <li>iii. Brief scope of work</li> <li>iv. Location map/ key plan</li> <li>v. Period of the project</li> </ul>		
<b>2</b>	<b>Reference Publications</b>		
<b>3</b>	<b>Terms &amp; Definitions</b>		
<b>4</b>	<b>Design &amp; Planning</b>		
<b>5</b>	<b>Legal &amp; Other requirements</b>		
<b>6</b>	<b>Declaring of the Emergency situation</b>		
<b>7</b>	<b>Roles, responsibility, accountability and authority</b>		
<b>8</b>	<b>Information System to concern service &amp; persons</b>		
<b>9</b>	<b>Emergency organization during silent working hours</b>		
<b>10</b>	<b>Emergency Control Room Diagram</b>		
<b>11</b>	<b>Media Centre &amp; Media Centre Diagram</b>		
<b>12</b>	<b>Evacuation Map have not been included to be inserted</b>		
<b>13</b>	<b>Cyclone preparedness</b>		
<b>14</b>	<b>Evacuation Routes and off site assembly area Diagram</b>		
<b>15</b>	<b>Conducting Hazard Analysis</b>		
<b>16</b>	<b>Procedure to be followed during non-working hours</b>		



17	<b>Emergency Evacuation Procedure</b> <ul style="list-style-type: none"> <li>• In case of fire</li> <li>• In case of collapse of building</li> <li>• In case of shed or structure</li> <li>• In case of Gas leakage</li> <li>• In case of Liquid spill control</li> <li>• In case of injury</li> <li>• In case of Strom</li> <li>• In case of riots or civil disturbances procedures</li> <li>• In case Bomb threat</li> <li>• In case of terrorist attack</li> <li>• In case of landslide</li> <li>• In case of floods</li> <li>• In case of Earth quake and other natural calamities</li> </ul>
18	<b>Site Emergency Team</b>
19	<b>List of Trained personnel of fire fighting and other emergency situation</b>
20	<b>Details of Emergency response kits at project site</b>
21	<b>Collapse &amp; Settlement Emergency process</b>
23	<b>Inundation Procedure</b>
24	<b>Piling Preparedness</b>
25	<b>Site Emergency response layout</b> <ul style="list-style-type: none"> <li>• Site layout indicating site address &amp; site telephone number</li> <li>• Fire point locations</li> <li>• Fire muster /Meeting point</li> <li>• Fire escape routes</li> <li>• Location of site office &amp;welfare</li> <li>• Site showing locations of structures, roads, parking area, natural features, onsite warning devices, fire fighting or other emergency equipment, major utility systems, and other features deemed essential for emergency purposes.</li> <li>• legend showing all symbolic and numerical representations used for labelling features, or label features on the map</li> </ul>

	<b>TIDEL PARK LTD CHENNAI</b>
<b>HEALTH PLAN CONTENTS</b>	
<b>Contractor Name</b>	
<b>Project Name</b>	
<b>1</b>	<b>Project Highlights</b> i. Title of the content ii. Contractor Number iii. Brief scope of work iv. Location map/ key plan v. Period of the project
<b>2</b>	<b>Reference Publications</b>
<b>3</b>	<b>Terms &amp; Definitions</b>
<b>4</b>	<b>Health Policy</b>
<b>5</b>	<b>Legal &amp; Other requirements</b>
<b>6</b>	<b>Roles, responsibility, accountability and authority</b>
<b>7</b>	<b>Health Hazards in construction- Chemical, Biological &amp; Physical</b>
<b>8</b>	<b>Conduct an Assessment</b>
<b>9</b>	<b>Method of monitoring airborne hazards</b>
<b>10</b>	<b>Site Implementation Procedure - Prevent or minimise exposure –Hand and arm vibration syndrome, silicosis, skin cancer, HIV AIDS, Leptospirosis, tetanus &amp; Hepatitis</b>
<b>11</b>	<b>Maintenance of control measure</b>
<b>12</b>	<b>Recording and Reviewing the Assessment</b>
<b>13</b>	<b>Health Surveillance /Exposure Monitoring - Keeping records, Monitoring</b>
<b>14</b>	<b>Assessment Briefing, Information, Instruction, awareness And Training For Employees</b>
<b>15</b>	<b>First Aid/Spillage/Disposal Procedure</b>
<b>16</b>	<b>Communication</b>
<b>17</b>	<b>Non -Compliance /Corrective action &amp; records</b>
<b>18</b>	<b>Review &amp; Audit</b>

	<b>TIDEL PARK LTD CHENNAI</b>
<b>ON SITE TRAFFIC MANAGEMENT PLAN CONTENTS</b>	
<b>Contractor Name</b>	
<b>Project Name</b>	
<b>1</b>	<b>Project Highlights</b> i. Title of the content ii. Contractor Number iii. Brief scope of work iv. Location map/ key plan v. Period of the project
<b>2</b>	<b>Reference Publications</b>
<b>3</b>	<b>Terms &amp; Definitions</b>
<b>4</b>	<b>Design &amp; Planning</b>
<b>5</b>	<b>Legal &amp; Other requirements (Relevant legislation, Guidelines &amp; standards)</b>
<b>6</b>	<b>Purpose, objective &amp; Performance goals</b>
<b>7</b>	<b>Structure &amp; Responsibilities (General (Site Structure reporting chart)), Role and Responsibilities for all staff</b>
<b>8</b>	<b>Concerns of local community and stake holders, limiting traffic movements</b>
<b>9</b>	<b>Existing road infrastructure &amp; construction interface -Road network, Access control, site speed limit, transport of materials, plant and equipment to site existing traffic control, road dilapidation surveys, Works boundary plan, Assignment of construction traffic, Roads &amp; Intersection operation &amp; Closures &amp; Public areas.</b>
<b>10</b>	<b>Interface between on-site and off-site road movements</b>

<b>11</b>	<b>Interface with public</b>
<b>12</b>	<b>Traffic Controls &amp; Mitigation measures- project site offices, project site access points, Heavy vehicle traffic routes, site office, light vehicle &amp; parking.</b>
<b>13</b>	<b>Setup of traffic management controls &amp; signage - Construction signage placement plan</b>
<b>14</b>	<b>Traffic Control plan</b>
<b>15</b>	<b>Construction deliveries /project deliveries procedures</b>
<b>16</b>	<b>Environmental Impact on the area Dust Management</b>
<b>17</b>	<b>Accident &amp; Emergencies</b>
<b>18</b>	<b>On Site Parking</b>
<b>19</b>	<b>Community</b>
<b>20</b>	<b>Monitoring and management of the traffic management plan</b>
<b>21</b>	<b>Training awareness &amp; competence</b>
<b>22</b>	<b>Risk Assessment</b>
<b>23</b>	<b>Review &amp; Audit</b>
<b>24</b>	<b>Pedestrian route checklist</b>
<b>25</b>	<b>Vehicle movement checklist</b>

	<b>TIDEL PARK LTD, CHENNAI</b>
<b>CONSTRUCTION PHASE OCCUPATIONAL HEALTH &amp; SAFETY PLAN CONTENTS</b>	
<b>Contractor Name</b>	
<b>Project Name</b>	
<b>1</b>	<b>Application of this plan</b>
<b>2</b>	<b>Purpose of this Plan</b>
<b>3</b>	<b>Scope</b>
<b>4</b>	<b>Contractor OHS&amp;E policy</b>
<b>5</b>	<b>Drugs &amp; Alcohol Policy Statement</b>
<b>6</b>	<b>OHS&amp;E Objectives</b>
<b>7</b>	<b>Legal and other requirement</b> Legal and other requirement International Standards, Guidelines & ISO Certifications
<b>8</b>	<b>Planning and Implementation</b> Planning and Implementation Interface Management of Change Procurement Sub-contractor Selection Construction Management Process Overview
<b>9</b>	<b>Contractor's OHS&amp;E Organization</b>
<b>10</b>	<b>Roles &amp; Responsibilities</b>
<b>11</b>	<b>Designer's Role</b>
<b>12</b>	<b>Risk Assessment and Method Statement</b>

<b>13</b>	<b>Hazard identification, risk assessment and determining controls</b> Hazard identification, risk assessment and determining controls Hazard Log & Risk Register Risk Assessment COSHH Assessment Design Risk Assessment Method Statements
<b>14</b>	<b>ID card and First day at work, OHS&amp;E Orientation training</b>
<b>15</b>	<b>Safety Training and Safety Promotion</b>
<b>16</b>	<b>Performance measurement and monitoring</b> Performance measurement and monitoring Surveillance Exercise's Site Safety Inspections Plant & Equipment Inspection Request for Inspection <b>OHS&amp;E Submittals to the Employer/Employer's representative</b>
<b>17</b>	<b>OHS&amp;E communication</b>
<b>18</b>	<b>Contractor's site OHS&amp;E committees</b>
<b>19</b>	<b>Reporting of accidents and Dangerous Occurrence</b>
<b>20</b>	<b>Accident investigation</b>
<b>21</b>	<b>Accident Statistics</b>
<b>22</b>	<b>Industrial Health and Welfare</b> <ul style="list-style-type: none"> <li>• <b>Physical Fitness of Workforce</b></li> <li>• <b>Medical Facilities</b></li> <li>• <b>Noise</b></li> <li>• <b>Ventilation</b></li> <li>• <b>Radiation</b></li> <li>• <b>Welfare measures for workers</b></li> </ul>
<b>23</b>	<b>House Keeping</b>
<b>24</b>	<b>Working at height</b>
<b>25</b>	<b>Over Head protection</b>
<b>26</b>	<b>Slipping, Tripping, Cutting, Drowning and Falling Hazards</b>
<b>27</b>	<b>Excavations</b>
<b>28</b>	<b>Lifting Operations</b>

<b>29</b>	<b>Launching Operation</b>
<b>30</b>	<b>Construction Machinery</b>
<b>31</b>	<b>Working in confined space</b>
<b>32</b>	<b>Work permit system</b>
<b>33</b>	<b>Site Electricity</b>
<b>34</b>	<b>Lighting</b>
<b>35</b>	<b>Hand Tools and Power Tools</b>
<b>36</b>	<b>Welding, gouging and cutting</b>
<b>37</b>	<b>Compressed Gases</b>
<b>38</b>	<b>Machinery</b>
<b>39</b>	<b>Heavy Plant operations</b>
<b>40</b>	<b>Demolition</b>
<b>41</b>	<b>False work /Formwork</b>
<b>42</b>	<b>Piling and Diaphragm walls</b>
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<b>45</b>	<b>Personal Protective Equipment</b>
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<b>47</b>	<b>Fire prevention, protection and fighting system</b>
<b>48</b>	<b>Site Perimeter Hoarding</b>
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		<b>TIDEL PARK LTD CHENNAI</b>	
<b>SITE FIRE PLAN CONTENTS</b>			
<b>Contractor Name</b>			
<b>Project Name</b>			
<b>1</b>	<b>Project Highlights</b> i. Title of the content ii. Contractor Number iii. Brief scope of work iv. Location map/ keyplan v. Period of the project		
<b>2</b>	<b>Reference Publications</b>		
<b>3</b>	<b>Terms &amp; Definitions</b>		
<b>4</b>	<b>Design &amp; Planning</b>		
<b>5</b>	<b>Legal &amp; Other requirements</b>		
<b>6</b>	<b>Roles, responsibility, accountability and authority</b>		
<b>7</b>	<b>On site Implementation procedures</b> • Site setup • Site induction • Means of Escape/Re direction of means, Escape through construction site • Inspection, test &drills • Emergency Evacuation procedure in case of fire, Hot work • Site Security • Flammable liquids & LPG Electricity • Waste Material Temporary Covering materials • Plant, Relevant statutory Signs		

8	<b>Fire &amp; Smoke</b> <ul style="list-style-type: none"> <li>• Storage of materials</li> <li>• Combustible materials</li> <li>• Flammable liquids</li> <li>• Compressed Gases</li> <li>• Handheld Blowpipes</li> <li>• Lighting Fixtures</li> <li>• Welding &amp;Cutting</li> <li>• Electric Arc Welding &amp;Cutting</li> <li>• Fires involving electrical equipment</li> </ul>
9	<b>Fire precautions</b> <ul style="list-style-type: none"> <li>• Routine testing and maintenance of fire protection equipment</li> <li>• Vulnerable items and locations</li> </ul>
10	<b>Emergency Team to include SCBA use, Training &amp; awareness</b>
11	<b>Fire-fighting and rescue</b> <ul style="list-style-type: none"> <li>• Emergency control facilities</li> <li>• Alarm procedures</li> <li>• Lighting</li> <li>• Smoke control</li> <li>• Rescue facilities</li> <li>• Self-rescuers</li> </ul>
12	<b>Fire fighting facilities</b>
13	<b>Fire Drills, Training &amp; awareness</b>
14	<b>Communication /Relevant Statutory Signs</b>
15	<b>Non -Compliance /Corrective action &amp; records</b>
16	<b>Fire Risk Assessment</b>
17	<b>Review &amp; Audit</b>
18	<b>Site Fire plan Layout</b> <ul style="list-style-type: none"> <li>• Site layout indicating site address &amp; site telephone number</li> <li>• Fire point locations</li> <li>• Fire muster /Meeting point</li> <li>• Fire escape routes</li> <li>• Location of site office &amp;welfare</li> </ul>

**MONTHLY OHS&E REPORT CONTENTS**

<b>Sl.No</b>	<b>Description</b>
<b>1</b>	<b>Executive Summary</b>
<b>2</b>	<b>Monthly man-hour details as specified in the Contract requirements</b>
<b>3</b>	<b>Reportable accidents, and First Aid Cases (Dangerous occurrences) and Lost work days</b>
<b>4</b>	<b>Accident /Incident by categories</b>
<b>5</b>	<b>Accident frequency Rate &amp; Severity &amp; Incidence Rate</b>
<b>6</b>	<b>Reportable accident /Incident Log</b>
<b>7</b>	<b>Incident investigation, Non-conformity, Corrective actions and preventive actions, Lessons learnt</b>
<b>8</b>	<b>Daily Tool Box tack Topic Schedule</b>
<b>9</b>	<b>Safety Theme of the Month</b>
<b>10</b>	<b>Status of implementation of TIDEL policy objectives &amp; Aims.</b>
<b>11</b>	<b>Status of compliance of TBOCWR 2006</b>
	<b>Status of Compliance of GC report (Weekly inspection, NCR and CSR), Observation</b>
<b>12</b>	<b>of TIDEL staff&amp; Legal inspector (e.g. Labour welfare inspector, TBOCWR Inspector etc.)</b>
<b>13</b>	<b>Status of Contractor Internal NCR to EC NCR (5:1)</b>
<b>14</b>	<b>Safety promotions activities.</b>
<b>15</b>	<b>Safety inspection and follow up actions ( Inspection by contractor's safety supervisory staff)</b>
<b>16</b>	<b>Safety walk conducted by Contractors' Project Manager in the month</b>
<b>17</b>	<b>Contractor's site safety committees</b>
<b>18</b>	<b>Status of NONO of Hazard identification and risk assessment</b>
<b>19</b>	<b>Status of NONO of Method statement and Lift Plan</b>
<b>20</b>	<b>Notice of no objection status of safety staff from the engineer and Organization Chart Day , Night including casting Yard operation</b>
<b>21</b>	<b>Status of Permit to work issued</b>
<b>22</b>	<b>Emergency preparedness plans and team and organization chart</b>
<b>23</b>	<b>OSH Communication activities under taken in the month indicating the number of posters displayed and balance availability in stock.</b>
<b>24</b>	<b>Industrial health and Labour Colony Inspection and follow up actions</b>
<b>25</b>	<b>Records of Gas (Carbon monoxide, Carbon dioxide, Nitrogen oxides, Methane, Hydrogen sulfide, Sulfur dioxide, Propane Butane Acetylene, Ammonia, Volatile organic compounds, Organic solvents, Oxygen deficiency, Oxygen enrichment, Petrol/Diesel vapour, Ozone, Radon), Noise, Vibration, Lux Meter, Ventilation Monitoring Details (in terms of m<sup>3</sup>/sec, m<sup>3</sup>/min)</b>
<b>26</b>	<b>Records of visitor to site</b>
<b>27</b>	<b>ISO 45001 OHS management systems certifications</b>
<b>28</b>	<b>Status of Update of Management system procedures ,Operational control procedures ,Construction phase health and safety plan, Emergency Plan , Fire plan , Health Plan</b>
<b>29</b>	<b>Monthly Training Plan (Management Staff , Specific Training and Worker)</b>
<b>30</b>	<b>Details of OSH training conducted internally and External Agency in the month</b>
<b>31</b>	<b>External Quarterly Audit training plan(Management Staff , Specific Training and Worker)</b>
<b>32</b>	<b>External Quarterly OHS&amp;E Audit plan</b>

33	Management review update
34	OSH internal audit details like MARS, Labour Colony, Traffic Management, Plant and Equipment, Excavation, Working at Height, , Confined Space , Electrical audit etc.
35	PPE details: Quantity purchased, issued to the workmen and stock available.
36	Details on IP 44 panel boards, lighting poles, welding and cutting equipment's, Ladders, Hoists, tools & tackles.
37	Housekeeping
38	Barricade maintenance details
39	No of critical excavations
40	Status of Mock Drill
41	OSH Activities Planned for next month

**Table No.: 1 - Minimum No. of Posters**

6.	Site Electricity	5	Each 25	Each 50	Each 75	Each200
7.	Crane Safety	5	Each 25	Each 50	Each 75	Each200
8.	Slings	5	Each 25	Each 50	Each 75	Each200
9.	Rigging Procedures	5	Each 25	Each 50	Each 75	Each200
10.	Excavation	5	Each 25	Each 50	Each 75	Each200
11.	Occupational Health (Mosquito Control, HIV/AIDS awareness, Dust Control, Noise Control, No Smoking/Spitting, etc.)	10	Each 25	Each 50	Each 75	Each200
12.	First – Aid	3	Each 25	Each 50	Each 75	Each200
13.	Labour Welfare Measures (Payment of Minimum Wages, Avoidance of Child labour, Signing in the Muster Roll, In case of accidents-what to do? etc	5	Each 25	Each 50	Each 75	Each200
14.	Importance of “Safety Handbook”	1	25	50	75	200
15.	Traffic Safety (Speed limit, safe crossing and working within barricaded area etc.)	5	Each 25	Each 50	Each 75	Each200
16.	Environmental Monitoring (Spillage of Muck, hazardous material, Improper drainage, water spray for dust containment etc.)	5	Each 25	Each 50	Each 75	Each200
17.	Video on PPE usage – 15 minutes duration	1	-	-	-	1

**Note 1:** Items mentioned under 17 is **video**. Items under 3 (a) and 5 (a) are **metal signage boards** and all other items are **posters**.

**Table No.: 2 – Size of Posters / Signages**

Sl.No	Item	Size
1.	Posters – Standard	17"x22" –135 GSM 4 Colour Printing
2.	Posters – Special (Wherever required)	17"x22" card laminated FA Poster
3.	Posters - Mega size (Wherever required)	32"x40" Flex FA Poster
4.	First-Aid Booklet	6"x4"
5.	Safety Handbook	6"x4"
6.	Signages	Small : 12"x6" Big : 24"x12"
7.	Road Traffic Sign Boards	Strictly as per Indian Road Congress (IRC) specifications

**Table No.: 3 – Safety Signage Colour (as per IS 9457)**

Sl.No	Type of signage	Colour
1	Mandatory	Blue
2	Danger	Yellow
3	Prohibitory	Red
4	Safe conditions	Green

**ID Card Format**

**(85 mm x 55mm)**

**Front side of ID Card:**

TIDEL	
Company Logo	Name & Address of Main / Sub / Labour
Name:  Designation:	Photo  Authorised Signatory

**Backside of ID Card:**

EmployeeAddress: _____ _____ _____
1This card is the property of “XX” (Main / Sub / Labour Contractor) and must be returned on
Main contractors’ Address

	<b>TIDEL PARK LTD CHENNAI</b>
<b>General Instruction:</b>	

**DAYS TO BE OBSERVED FOR CREATING OHS&E AWARENESS**

1 <sup>st</sup> Monday to Sunday of January	Road Safety Week (Subjected to confirmation from Ministry of Road Transport, Govt. of India every year.)
16 <sup>th</sup> February	Kyoto Protocol Day
March	Red Cross Month
May 1 to 7	Emergency Preparedness Week
4 <sup>th</sup> March	National Safety Day
7 <sup>th</sup> April	World Health Day
14 <sup>th</sup> April	Fire Safety Day
April 18 to 22	Earth Week
20 <sup>th</sup> April	Earth Day
20 <sup>th</sup> April	Noise Awareness Day
28 <sup>th</sup> April	ILO World Day for Safety and Health at Work Day
5 <sup>th</sup> June	World Environmental Day
12 <sup>th</sup> June	World Day against Child Labours
9 <sup>th</sup> July	Occupational Health Day
17 <sup>th</sup> October	World Trauma Day
1 <sup>st</sup> December	World AIDS Day



**MINIMUM LIGHTING REQUIREMENTS**

<b>S.N.</b>	<b>Facility or Function</b>	<b>Luminance – lx (lm/ft<sup>2</sup>)</b>
1.	Administrative areas (offices, drafting and meeting rooms, etc.)	540 (50)
2.	<b>Construction areas</b> <ul style="list-style-type: none"> <li>- General indoor</li> <li>- general outdoor</li> <li>- general underground work areas (minimum 110 lux required and shaft heading during drilling, mucking and scaling)</li> </ul>	55(5) 33(3) 55(5)
3.	<b>Access ways</b> <ul style="list-style-type: none"> <li>- exit ways, walkways, ladders, stairs</li> </ul>	110 (10)
4.	<b>Maintenance / Operating areas / shops</b> <ul style="list-style-type: none"> <li>- vehicle maintenance shop</li> <li>- carpentry shop</li> <li>- outdoors field maintenance area</li> <li>- refueling area, outdoors</li> <li>- shops, fine details work</li> <li>- shops, medium detail work</li> <li>- welding shop</li> </ul>	325(30) 110(10) 55(5) 55(5) 540(50) 325(30) 325(30)
5.	Mechanical/electrical equipment rooms	110 (10)
6.	Hoists, Elevators, freight and passenger	215 (20)
7.	<b>Warehouses and storage rooms/area</b> <ul style="list-style-type: none"> <li>- indoor stockroom, active/bulk storage</li> <li>- indoor rack storage</li> <li>- outdoor storage</li> </ul>	110(10) 270(25) 33 (3)
8.	Health Centers and First aid stations and infirmaries	325 (30)
9.	Toilets, wash and dressing rooms	110 (10)
10.	Work areas – general (not listed above)	325 (30)
11.	Parking areas	33 (3)
12.	Visitor areas	215 (20)
13.	Laboratories	540 (50)

**SECTION IV**  
**EMPLOYER’S(OWNER’S) REQUIREMENTS**  
**OCCUPATIONAL, HEALTH, SAFETY AND**  
**ENVIRONMENTAL**  
**PART-3**

**PART – 3**  
**STATEMENT OF INTENT**

Tidel Park Ltd, Chennai firmly believes in a “development which meets the needs of the present without compromising the ability of future generations to meet their own needs”. This commitment towards sustainable development is manifested clearly in our corporate culture, even as we continue to build a world-class Information Technology Park.

Tidel intends to incorporate ISO 14001 standards in its construction. This commitment entails aggressive employment of methods and strategies during construction that maximize energy efficiency, use cleaner technologies, reuse and or recycle materials and similar other efforts that help to prevent and reduce environmental degradation.

It is the intent of Tidel to demonstrate continual improvement in its environmental management system during the execution of the project.

This manual represents the minimum standards that Tidel Park Limited will accept on matters of Environment. It lays down the guidance for environmental protection measures to be adopted as part of mitigation strategy for overcoming adverse environmental impacts during construction. It suggests environmental friendly construction practices that the Contractors are encouraged to adopt in order to contain various types of pollutants that may be generated due to construction activities.

TIDEL Park Limited actively supports the efforts and initiatives that are instigated by the Contractors and sub-contractors in their efforts for achieving good standards of Environment on the project. The Corporation will use its best endeavours to ensure that all of the Contractors employed on the Project achieve these Standards.

**TIDEL PARK PROJECT****Environmental Policy**

We at TIDEL Park Project accord high priority to the protection of environment while building a world class Information Technology Park for the city Madurai.

In this endeavour, we are committed to:

- Adopt environment friendly construction methods and practices so as to cause minimum inconvenience to public and protect ecological degradation.
- Create assets that are aesthetically appealing, optimise the use of energy and causing minimum impact on the environment.
- Make all efforts to create environmental awareness among our employees, Contractors and others.
- Strive for continual improvement in our environment policies, processes and procedures
- Comply with applicable local and National environmental legislations.
- The above Environmental Policy is communicated to all employees for adherence and to be made available to interested persons/parties.

Date:

(\_\_\_\_\_)

Place: Chennai

AUTHORISED SIGNATORY

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## 1. Introduction

Significant success has been made in India in developing and enforcing environmental regulations in many areas. However, there still remain a number of areas that have not yet seen the promulgation of environmental standards and regulations. Many of these areas have a high potential for adverse environmental impact if allowed to go unregulated. As the TIDEL undertakes to build this Information Technology Park it shall institute and enforce adequate environmental standards to provide for the protection of the people and the environment.

In response, the Contractor shall comply with all applicable Indian laws and regulations to mitigate the adverse environmental impacts from the construction activities. The Contractor shall conduct an analysis of the environmental Impacts, and implement suitable measures to mitigate the adverse impacts so as to comply with all the environmental standards & regulations. All appropriate categories/areas, such as air quality, noise, water quality, etc. are to be considered in the environmental analysis. The Contractor will have to undertake Environmental Monitoring and Audit during construction to measure the environmental impacts. Should the impact measurements exceed the respective limits set forth in EIA Report, the Contractor shall be required to review and implement effective measures so as to ensure that the impact of the construction works will not exceed the respective limits set forth in the EIA report.

The Contractor shall be responsible for the total compliance of the Environmental Protection safeguards as elaborated in this Environmental Management Arrangements.

The 'Environmental Management Arrangements'(EMA) document forms an essential part of the overall Environmental protection system employed by TIDEL for the construction of the TIDEL Park project.

The EMA has been prepared to facilitate construction progress while ensuring fulfilment of environmental commitments. It provides systematic procedures for monitoring and minimizing environmental impacts that may arise from the construction activities.

The EMA will apply to all construction works of the TIDEL Park Project carried out by the Contractors and Sub-contractors.

The primary reason for adopting the EMA approach is to make the Contractor aware of his environmental responsibilities and to ensure his commitment to achieving the specified standards.

The TIDEL EMA is meant to be a living document that will be updated as design and construction progresses and when further environmental issues are identified.

Periodic reviews of the plan and procedures will be performed to ensure continual improvement of the Plan's adequacy and it will be expanded and updated during the project duration.

Because the work potentially involves design-build contracts, this EMA is intended to be flexible and tailored to match highly variable construction activities and locations throughout the project.

The EMA is set out as follows:

- ◆ Section 2 highlights the purpose and scope
- ◆ Section 3 outlines the objective, which will form a basis for Environmental Management System
- ◆ Section 4 lists the definitions and abbreviation of terms used
- ◆ Section 5 sets out the responsibilities for application of the procedures
- ◆ Section 6 provides guidance to the Contractor for preparation of his contract specific Site Environmental Plan
- ◆ Section 7 commits the Contractor's Method Statement to incorporate environmental issues during execution of works
- ◆ Section 8 focuses on the Environmental Performance Review of Contractor's activities through Environmental Audits
- ◆ Section 9 details measures to contain Air, Water, and Noise Pollution and management of waste through Environmental Friendly Construction Practices
- ◆ Section 10 specifies good House keeping measures
- ◆ Section 11 is on Landscape and Aesthetics
- ◆ Section 12 suggests measures to conserve energy through effective Energy Management
- ◆ Section 13 deals with Traffic Management
- ◆ Section 14 focuses on requirements that the Contractor shall have to meet in case Archaeological and Historic Resources are encountered
- ◆ Section 15 on Environmental Monitoring - lists the relevant monitoring equipment, compliance criteria and monitoring programme to be undertaken by the Contractor during construction
- ◆ Section 16 details requirements for impact monitoring for air quality including Air Monitoring and Control Plan
- ◆ Section 17 details requirements for impact monitoring for noise including Noise Monitoring and Control Plan
- ◆ Section 18 describes the Environmental Site Inspection process to be implemented by the Contractor
- ◆ Section 19 details the Environmental Audits, which the Employer's Engineer may undertake as part of environmental performance review
- ◆ Section 20 details the Reporting requirements as related to submission of Contractor's Monthly Environmental Management Report under this EMA
- ◆ Section 21 sets out the Complaint response process and finally,
- ◆ Section 22 mentions the requirements of Completion of the EMA programme

## **2. Purpose & Scope**

The purpose of this Environmental Management Arrangements is to make the Contractors aware of the environmental concerns of TIDEL, and to establish guidelines for the application of environmental controls during the construction of the project.

The Environmental Management Arrangements is intended to translate into practice, three important principles of TIDEL's mandate, which the construction activities should not:

- ◆ Inconvenience or endanger public
- ◆ Create a permanent visual eyesore
- ◆ Result in unmitigated ecological or environmental degradation

The EMA is intended to guide and assist the Contractors in exploring all reasonable and feasible means for reducing construction related environmental impacts as they prepare and produce contract-specific Aspect / Impact Assessments and Site Environmental Plans.

The EMA stipulates environmental controls that in lieu of alternative controls specified by the Contractor must be applied.

Environmental controls adopted by the individual contractors as an alternative to the measures identified herein must be as protective of the environment.

The scope of the EMA is to establish procedures to:

- ◆ Supervise Contractor's compliance with defined environmental control criteria by carrying out reviews of monitored impact data
- ◆ Oversee the procedure for identification of mitigation measures, their design and implementation
- ◆ Carry out environmental monitoring emissions during construction through an impact monitoring programme
- ◆ Undertake additional ad hoc monitoring if required, to address specific instances

### 3. Objective

The various components included in the EMA along with the Employer's Engineer requirements on Environment will form the basis of an Environmental Management System to be implemented by TIDEL, which will enable it to manage the environmental challenges and resolve environmental issues posed during construction of TIDEL Park Project. The main objectives are to:

- ◆ Provide database from which environmental impacts of the project can be determined.
- ◆ Provide timely indication if any environmental control measure fails to achieve desired results.
- ◆ Monitor effectiveness of environmental mitigation measures
- ◆ Initiate remedial action if unacceptable impacts arise.
- ◆ Determine contractor's compliance with statutory and legal requirements.

### 4. Definitions & Abbreviations

**Air Monitoring and Control Plan** is abbreviated as AMCP.

**Auditor:** Person with the competence to conduct an audit.

**A – Weighted** Noise levels in Decibels (referenced to 20 micro-Pascal) as measured with A - weighting network of standard sound level meter, abbreviated(A).

**Central Pollution Control Board**, New Delhi is abbreviated as CPCB.



**Continual improvement:** Recurring process or enhancing the environmental management system in order to achieve improvements in overall environmental performance consistent with the organization's environmental policy.

**Corrective action:** Action to eliminate the cause of a detected nonconformity.

**Decibels** measure on a logarithmic scale of the magnitude of a particular quantity (such as sound pressure, sound power) with respect to a standardized reference quantity.

**Document:** Information and its supporting medium.

**Energy Equivalent Level ( $L_{eq}$ )** is the level of a steady noise which has the same energy as the fluctuating noise level integrated over the period of measurement.  $L_{max}$  is the maximum Noise Level during the period of measurement.  $L_{10}$  and  $L_{90}$  are the percentile exceeding levels of sound which are exceeded 10% and 90% of the time of measurement.

**Environmental Pollutant** means any solid, liquid or gaseous substance present in such concentration as may be or tend to be injurious to environment.

**Environmental Pollution** means the presence in the environment of any environmental pollutant.

**Environment:** Surroundings in which an organization operates, including air, water, land, natural resources, flora, fauna, humans, and their interrelation.

**Environmental Aspect:** Element of an organization's activities or products or services that can interact with the environment.

**Environmental Impact:** Any change to the environment whether adverse or beneficial, wholly or partially resulting from an organization's environmental aspects.

**Environmental Management Manual** is abbreviated as EMM.

**Environmental Management System:** Part of an organization's management system used to develop and implement its environmental policy and manage its environmental aspects.

**Environmental Objective:** Overall environmental goal, consistent with the environmental policy that an organization sets itself to achieve.

**Environmental Performance:** Measurable results of an organization's management of its environment aspects.

**Environmental Policy:** Overall intentions and direction of an organization related to its environmental performance as formally expressed by top management, under signature.

**Environmental Target:** Detailed performance requirement applicable to the organization or parts thereof, that arises from the environmental objectives and that needs to be set and met in order to achieve those objectives.

**Interested Party:** Person or group concerned with or affected by the environmental performance of an organization.

**Internal audit:** Systematic, independent and documented process for obtaining audit evaluating it objectively to determine the extent to which the environmental management system audit criteria set by the organization are fulfilled.

**Ministry of Environment and Forest,** Government of India is abbreviated as MoEF.

**Monitoring** is the use of direct or indirect reading field instrumentation to provide information regarding the levels of pollutants released during construction.

**Noise** is any unwanted sound disturbance of the environment around the area of

construction operations.

**Noise Monitoring and Control Plan** is abbreviated as NMCP.

**Nonconformity:** Non-fulfilment of a requirement.

**Nuisance** is annoyance, which results from any construction activity that affects the material comfort and quality of life of the inhabitants of the area surrounding the construction site.

**Organization:** Company, corporation, firm, enterprise, authority or institution, or part or combination thereof, whether incorporated or not, public or private, that has its own functions and administration. It also includes the Contractor executing the TIDEL contract of Information Technology Park.

**Preventive Action:** Action to eliminate the cause of a potential nonconformity.

**Prevention of pollution:** Use processes, practices, techniques, materials, products, services or energy to avoid, reduce or control the creation, emission or discharge of any type of pollutant or waste, in order to reduce adverse environmental impacts.

**Procedure:** Specified way to carry out an activity or a process.

**Record:** Document stating results achieved or providing evidence of activities performed.

**Respirable Particulate Matter** is abbreviated as RPM and is particulate matter with size less than 10  $\mu\text{m}$  and is measured in  $\mu\text{g}/\text{m}^3$  (microgram per cubic meter)

**Suspended Particulate Matter** is abbreviated as SPM and measured in  $\mu\text{g}/\text{m}^3$  (microgram per cubic meter)

**Site Environmental Plan:** A document prepared by the Contractor that contains detailed procedures on implementing the Employer's Engineer requirements on Environment.

**Usage factor:** Expressed as the percent of time that the equipment is operated at full power while onsite.

**Waste** is unwanted surplus substance arising from the application of all construction operations and any substance or articles, which is required to be disposed.

## 5. Responsibilities

The Contractor shall set up an environmental team to execute the environmental requirements.

The duties of the Contractor's Environmental Team will include (but not limited to):

- To monitor the various environmental parameters as required by the EMA
- To inspect, investigate and audit the work methodology with respect to environmental mitigation and control
- To anticipate environmental issues before they arise and plan for their mitigation
- To audit and prepare audit reports, weekly/monthly reports on site environmental conditions for submission to the Employer's Engineer.

Reporting to the Employer's Engineer, the Contractor shall

- Work within the scope of contract and other tender condition.
- Operate and strictly adhere to the requirements of his contract specific-SEP
- Undertake any corrective actions as instructed by his Environmental Manager

To lead his Environmental team, the Contractor shall deploy an Environment Manager who shall be responsible for environmental control, pollution monitoring, and record keeping and be available to the Employer's Engineer for resolution of environmental issues.

## **6. Site Environmental Plan**

To effectively implement monitoring, mitigation and remedial requirements, an appropriate contractual and supervisory framework needs to be established.

The basis of framework within which implementation will be managed is through the preparation of contract-specific Site Environmental Plan by the Contractor. The Employer's Engineer will audit this contract-specific plan and advise the necessary remedial actions required through contractual means.

The Site Environmental Plan shall provide details of the means by which the Contractor (and all subcontractors working for the Contractor) will implement the recommended mitigation measures and achieve the environmental performance standards defined both in Indian environmental legislation and in the Employer's Engineer's requirements.

Based on Site Environmental Plan outline given in this document, as Appendix – I, Contractor shall prepare a Site Environmental Plan for submission as part of the tender process.

The outline Environmental Plan shall demonstrate the determination and commitment of Contractor's organisation towards environment and indicate how the environmental performance requirements laid out in the Employer's Engineer's requirements will be met and, where appropriate exceeded.

Within 28 days of the date of Notice to commence, the Contractor shall submit a draft contract – specific Site Environmental Plan for notice of no objection of the Employer's Engineer and a final version prior to the commencement of the works.

The contract-specific Site Environmental Plan will contain description of all procedures developed to control environmental pollution. Elements of the plan must address the management of pollution, the monitoring programme, and the reporting requirements.

The Site Specific Environmental Plan shall contain an Aspect Impact register together with outline proposals/procedure for mitigating negative impacts.

## **7. Contractor's Method Statement**

It shall be the practice for the Contractor to prepare method Statement in advancement of actual works, for the notice of no objection of the Employer's Engineer.

The Contractor's Environmental Manager will be one of the signatories to the Method Statement, after assessing and verifying the environmental impact of the prepared construction activity and ensuring that effective control measures will be in place, timely.

## **8. Environmental Performance Reviews**

Environmental Performance Reviews, through an Environmental Audit Programme, may be carried out quarterly by the Employer's Engineer to assess the effectiveness of the Site Environmental Plan, and that the required mitigation measures are routinely implemented and environmental standards are maintained.

The preliminary objective of the audit programme will be to assess the effectiveness of management systems established by the Contractor to implement the environmental mitigation measures.

The reviews by Employers engineer shall focus on the effectiveness of the implemented measures to achieve the purpose not simply the fact that a measure has been implemented.

In such reviews, demonstrable evidence on the part of the environmental requirements will be sought.

The Contractor shall carry out daily, environment inspection of his works and submit a weekly report as per format for reporting is suggested as Appendix –II.

The Contractor shall ensure that his weekly/monthly environmental reports and mandating audits are linked to respective previous submission. The Employers engineer will ensure that this procedure is followed by the institution of a monitoring and reporting system that provides information about the environmental performance of the construction Contractor throughout the duration of the contract.

The Employer's Engineer will monitor Contractor's performance of tasks specified, and will inspect necessary records, reports and procedures as defined in this manual.

## **9. Environmental Friendly Construction Practices**

### **Containment of Air Pollution**

#### **During Transport of Material**

- (a) The Contractor shall take precautions to minimize visible particulate matter from being deposited upon public roadways as a direct result of his operations. Precautions include removal of particulate matter from equipment before movement to paved streets or prompt removal of material from paved streets onto which such material has been dropped.
- (b) All construction equipment should be washed clean of visible dirt/mud before exiting the construction sites. Any deposition of material on public streets by construction equipment should be removed by manual sweeping, or by deploying electro – mechanical devices.
- (c) The Contractor shall provide a wash pit or a wheel washing and/or vehicle cleaning facility at the exits from work sites such as construction depots and batching plants. At such facility, high-pressure water jets will be directed at the wheels of vehicles to remove all spoil and dirt. Water shall be pumped through an electrically operated pump set, to hydrants attached with rubber hoses, by activation of push button located at the hydrant, allowing for up to 10 minutes of wash time.
- (d) Wheel washing facilities will be provided with efficient drainage, incorporating silt traps to prevent any excessive build up of water. These facilities could include water re-circulation apparatus to minimise water consumption. At the wheel wash

facility, water, dirt, gravel etc. shall be drained into precast trench drains with removable grated cover. This dirty water shall flow, through a piping, into solids separator and from there to oil separator before final discharge.

- (e) Where wheel-washing facility is not possible, the Contractor shall ensure manual cleaning of wheels by wire brushes or similar suitable means.
- (f) The Contractor shall ensure that vehicles with an open load carrying area used for moving potentially dust-producing materials shall have properly fitting side and tailboards. Materials having the potential to create dust shall not be loaded to a level higher than the side and tail boards, and shall be carried in vehicles fitted with covers.

#### **At Dumping Sites**

- (a) The Contractor shall place excavated materials in the dumping/disposal areas designated in the drawings.
- (b) The Contractor shall place material in a manner that will minimise dust production. Material shall be stabilized each day by watering or other accepted dust suppression techniques.
- (c) The heights from which materials are dropped shall be the minimum practical height to limit fugitive dust generation.
- (d) The Contractor shall stockpile material in the designated and approved locations with suitable slopes. Access to the site shall be regulated for entry of men, material and machine.
- (e) During dry weather, dust control methods such as water sprinkling must be used daily especially on windy, dry days to prevent any dust from blowing and causing nuisance. During rains, the stockpile may be covered with tarpaulin or similar material to prevent runoff.
- (f) The Contractor shall provide water sprinkling at any time that it is required for dust control use.
- (g) Sufficient equipment, water, and personnel shall be available on dumping sites at all time to minimize dust formation and movements to prevent nuisance.
- (h) Dust control activities shall continue even during work stoppages.

#### **At Construction Site**

- (a) At each construction site, the Contractor shall provide storage facilities for dust generating materials and shall be closed containers/bins or wind protected shelters or mat covering or walled or any combination of the above to the satisfaction of the Employer's Engineer. The Contractor shall spray water at construction sites as required to suppress dust, during handling of excavation soil or debris or during demolition.
- (b) Stockpiles of sand and aggregate greater than 20m<sup>3</sup> for use in concrete manufacture shall be enclosed on three sides, with walls extending above the stockpile and two (2) meters beyond the front of the stockpile.
- (c) Effective water sprays shall be used during the delivery and handling of all raw sand and aggregate and other similar materials, when dust is likely to be created and to dampen all stored materials during dry and windy weather.
- (d) Areas within the Site such as construction depots and batching plants, where there is a regular movement of vehicles shall have an approved hard surface that is kept clear of loose surface material.
- (e) Unless the Employer's Engineer has given notice otherwise, the Contractor shall

restrict all motorized vehicles on the Site to a maximum speed of 15 kilometers per hour and confine haulage and delivery vehicles to the designated roadways inside the site.

- (f) At the Batching plant the following additional conditions shall be complied with:
  - ◆ The Contractor shall undertake at all times the prevention of dust nuisance as a result of his activities.
  - ◆ The Contractor shall frequently clean and water the concrete batching plant and crushing plant sites and ancillary areas to minimise any dust emission.
- (g) The Contractor shall erect hoardings as specified in Employer's Engineer requirements – construction, securely around all construction work sites during the main construction activity, to contain dust within the site area and also to reduce air turbulence caused by passing traffic. The hoarding shall be safely secured to the ground to prevent from toppling with minimum gap between the base of hoarding and ground surface.

#### **During Drilling and Blasting**

- (a) Water spray should be used to control dust during breaking of rock/concrete.
- (b) During blasting operations, appropriate precautions should be taken to minimise dust such as the use of blast nets, canvas covers and watering.
- (c) Wire mesh made of heavy-duty tyres or sand bags should be used over blast area on each shot to prevent flying rock and reduce dust.
- (d) Blasting technique should be consistent not only with nature and quantity of rock to be blasted but also the location of blasting.
- (e) The Contractor shall give due preference to explosives with better environmental characteristics.
- (f) Vibration shall be monitored during blasting and values shall not exceed as those given in this Environmental Management Manual

#### **Containment of Water Pollution**

- (a) The Contractor shall comply with the Indian Government legislation and other State regulations in existence in Chennai in so far as they relate to water pollution control and monitoring.
- (b) The Contractor shall provide adequate precautions to ensure that no spoil or debris of any kind is pushed, washed, falls or deposited on land adjacent to the site perimeter.
- (c) In the event of any spoil or debris from construction works being deposited on adjacent land any silt washed down to any area, then all such spoil, debris or material and silt shall be immediately removed and the affected land and areas restored to their natural state by the Contractor to the satisfaction of the Employer's Engineer.
- (d) At construction depots and batching plants temporary drainage works should be maintained, removed and reinstated as necessary and all other necessary precautions should be taken for avoidance of damage by flooding and silt.
- (e) Sedimentation tanks or other acceptable measures, of sufficient capacity to trap silt-laden water before discharge into the outlet drain should be provided. The system should be flexible and be able to handle multiple inputs from a variety of sources.
- (f) Temporary open storage of excavated materials meant for backfilling on site, should be covered with tarpaulin or similar fabric during rainy season or at any time of the year when rainstorms are likely. Washout of construction or excavated materials should be

diverted to drainage system through appropriate sediment traps.

- (g) Bentonite slurries or other grouts used in diaphragm wall construction piling and other concrete works should be collected in a separate slurry collection system. If reuse is not practicable then it should be disposed off at nearest landfill site after obtaining permission from the agency owning the landfill and under the conditions imposed by the agency concerned..
- (h) Due to lowering of potable water supplies in Chennai and subsequent contamination of ground water, the Contractor is not allowed to discharge water from the site without the notice of no objection of the Employer's Engineer . The Contractor must comply with the requirements of the Central Ground Water Board for discharge of water arising from dewatering. Any water obtained from dewatering systems installed in the works must be either re-used for construction purposes and this water may subsequently be discharged to the drainage system or, if not re-used, recharged to the ground water at suitable aquifer levels. The Contractor must submit his proposals for notice of no objection of Employer's Engineer , on his proposed locations of dewatering of excavation and collection of water for either construction re-use or recharge directly to aquifers. The Contractor's recharge proposals must be sufficient for recharging of the quantity of water remaining after deduction of water re-used for construction. The Contractor will not be permitted to directly discharge, to the drainage system, unused ground water obtaining from the excavation without obtaining notice of no objection from the Agency controlling the system.
- (i) The Contractor shall prevent soil particles and debris from entering the wells or water discharge points by use of filters and sedimentation basins asrequired.
- (j) The Contractor shall provide treatment facilities as necessary to prevent the discharge of contaminated groundwater.
- (k) The Contractor shall at all times ensure that all existing stream courses and drains within, and adjacent to the site are kept safe and free from any debris and any excavated materials arising from the Works.
- (l) The Contractor shall discharge wastewater arising from site offices, canteens or toilet facilities constructed by him into sewers after obtaining prior notice of no objection of agency controlling the system. A wastewater drainage system shall be provided by the Contractor to drain wastewater into the sewerage system.
- (m) Oil separator/interceptors shall be provided at Batching Plant and construction depot location for vehicle maintenance to prevent the release of oils and grease into the drainage system. These shall be cleaned on a regular basis.
- (n) A Spill Prevention and Control Procedure shall be prepared to identify project components such as storage areas, storage tanks that could allow discharge of oil grease or hazardous materials to the drainage system or ultimately in any water body during spillage. The volume of spill should be calculated as well as storage volume to contain spill within the materials storage containment areas. The procedure shall include measures to contain and mitigate transportation of oil, grease or hazardous materials to the drainage system or any water body.
- (o) The Contractor shall ensure that earth, bentonite, chemicals and concrete agitator washings etc. are not deposited/drained in the watercourses but are suitably treated and effluents and residue disposed off in a manner approved by local Regulatory Authorities.
- (p) Perimeter channels/drains should be constructed in advance of site formation works and earthworks. Silt removal facilities, channels and manholes should be maintained

and the deposited silt and grit should be removed regularly, to ensure that these facilities are functioning properly at all times.

- (q) Construction works should be programmed to minimize soil excavation works in rainy season. If excavation in soil could not be avoided in these months or at any time of year when rains are likely, for the purpose of preventing soil erosion, temporarily exposed slope surfaces should be covered e.g. by tarpaulin, and temporary access roads should be protected by crushed stone or gravel, as excavation proceeds. Arrangement should always be in place to ensure that adequate surface protection measures can be safely carried out well before the arrival of rains.
- (r) Measures should be taken to minimize the ingress of rainwater into trenches. If excavation of trenches in wet seasons is necessary, they should be dug and backfilled in short sections. Rainwater pumped out from trenches or foundation excavation should be discharged into storm drains via silt removal facilities.
- (s) Open stockpiles of construction materials (e.g. aggregates, sand and fill material) on sites should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system.
- (t) Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into sewers. Discharge of surface run-off into sewers must always be prevented in order not to unduly overload the sewerage system.
- (u) Groundwater pumped out of wells, etc. for the lowering of ground water level in basement of foundation shall be discharged into storm water drains after the removal of silt in silt removal facilities.
- (v) Wastewater from Concrete Batching & Precast Concrete Casting and that generated from the washing down of mixer trucks and drum mixers and similar equipment should wherever practicable be recycled. The discharge of wastewater should be kept to a minimum.
- (w) The section of construction road between the wheel washing bay and the public road should be paved to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains.
- (x) Surface run-off should be segregated from the concrete batching plant and casting yard area as much as possible and diverted to the storm water drainage system. Surface run-off contaminated by materials in a concrete batching plant or casting yard must be treated to, within the discharge norms before disposal into storm water drains.

#### **Containment of Noise**

- (a) Construction of facilities and structures would require the use of equipment, which may generate high noise levels and adversely affect noise sensitive receivers.
- (b) In assessing the impact of construction noise and hence its containment, the nature and level of activities that generate noise, the pathway through which noise travels, the sensitivity of the receptor, and the period of exposure should be considered.
- (c) Environmental noise is measured in decibels (dB). To better approximate the range of sensitivity of the human ear to sounds of different frequencies, the A- weighted decibel scale (dBA) was devised. As the human ear is less sensitive to low frequency sounds, the A-scale de-emphasizes these frequencies by incorporating frequency weighting of the sound signal. When the A-scale is used, the decibel levels are



represented by dBA.

- (d) On this scale, the range of human hearing extends from about 3 dBA to about 140 dBA. A 10-dBA increase is judged by most people as a doubling of the sound level.
- (e) To the extent required to meet the noise limits the Contractor shall use reasonable efforts to include noise reduction measures listed below to minimize construction noise emission levels. Noise reduction measures – include, but not limited to the following:
  - (i) Minimize the use of impact devices, such as jackhammers, and pavement breakers. Where possible, use concrete crushers or pavement saws for tasks such as concrete deck removal and retaining wall demolition.
  - (ii) Equip noise producing equipment such as jackhammers and pavement breakers with acoustically attenuating shields or shrouds recommended by the manufacturers thereof, to meet relevant noise limitations.
  - (iii) Pneumatic impact tools and equipment used at the construction site shall have intake and exhaust mufflers recommended by the manufacturers thereof, to meet relevant noise limitations.
  - (iv) Provide mufflers or shield panelling for other equipment, including internal combustion engines, recommended by manufacturers thereof.
  - (v) Employ prefabricated structures instead of assembling on-site.
  - (vi) Use construction equipment manufactured or modified to dampen noise and vibration emissions, such as:
    - Use electric instead of diesel-powered equipment.
    - Use hydraulic tools instead of pneumatic impact tools.
  - (vii) Maximize physical separation, as far as practicable, between noise generators and noise receptors. Separation includes following measures:
    - Provide enclosures for stationary items of equipment and barriers around particularly noisy areas onsite.
    - Locating stationary equipment in such a way, so as to minimize noise and vibration impact on community.
- (f) To the extent feasible, configure the construction site in a manner that keeps noisier equipment and activities as far as possible away from noise sensitive locations and nearby buildings. Plant and equipment known to emit noise strongly in one direction should where possible, be oriented in a direction away from noise sensitive receptor and reduce the number of plant and equipment operating in critical areas close to noise sensitive receptors.
- (g) Scheduling truck loading, unloading, and hauling operations in such a way so as to minimize noise impact near noise sensitive locations and surrounding communities.
- (h) Minimize noise intrusive impacts during most noise sensitive hours by adopting the following.
  - Plan noisier operations during times of highest ambient noise levels.
  - Keep noise levels relatively uniform; avoid excessive and impulse noises.
- (i) Equipment and plant are not to be kept idling when not in use.
- (j) Use only well maintained plant/equipment at site, which should be serviced regularly.
- (k) Maintain equipment such that parts of vehicles and loads are secure against vibrations and rattling.

- (l) Grading of surfaced irregularities on construction sites to prevent the generation of impact noise and ground vibrations by passing vehicles.
- (m) Schedule work to avoid simultaneous activities that generate high noise levels.
- (n) The construction of temporary noise barriers.
- (o) If back-up alarms are used on construction equipment, their noise emission level near noise sensitive receptors such as residences, schools, hospitals and similar areas where calmness is essential, should be regulated, especially at nighttime.
- (p) Select truck routes for muck disposal so that noise from heavy-duty trucks will have minimal impact on sensitive areas (e.g., residential) and submit to the Employer's Engineer for notice of no objection:
  - Conduct truck loading, unloading and hauling operations in a manner such that noise and vibration are kept to a minimum.
  - Route construction equipment and vehicles carrying soil, concrete or other materials over streets and routes that will cause least disturbance to residents in vicinity of work.
  - Avoid operating truck on streets that pass by schools during school hours.
- (q) The maximum permissible sound pressure level for new generator sets (up to 1000 KVA) run on diesel, shall be 75 dB(A) at one metre from the enclosure surface.
- (r) For existing diesel generator sets, the noise from the DG set shall be controlled by providing an acoustic enclosure or acoustic treatment of the room for DG sets. Such acoustic enclosures/acoustically treated rooms, shall be so designed for minimum 25 dB(A) insertion loss or for meeting the ambient noise standards, whichever is on higher side.

**Containment of Waste**

- (a) Careful design, planning and good site management can minimize waste of materials such as concrete, mortars and cement grouts. The Contractor shall ensure regular maintenance and cleaning of the waste storage areas.
- (b) Construction activities are expected to generate a variety of waste such as:
  - (i) General refuse
  - (ii) Construction Waste including waste from excavated material
  - (iii) Chemical waste and
  - (iv) Hazardous waste
- (c) Handling and disposal of such waste may cause environmental degradation and nuisance. To prevent it, such waste has to be handled and disposed properly. As such, transportation and disposal of all waste shall be strictly managed.
- (d) General Refuse
  - (i) Each worksite would generate general refuse including paper and food waste. There is likely to be a concentration of such waste at batching plants on major worksite. The storage of general refuse has the potential to give rise to negative environmental impacts.
  - (ii) Handling and disposal of general refuse should cope with the peak construction workforce during the construction period. The refuse should be stored and transported in accordance with good practice and disposed at licensed landfills
  - (iii) General refuse should be stored in enclosed bins or units and has to be separated

from construction and chemical wastes. An authorised waste collector should be employed by the Contractor to remove general refuse from the site, on a daily basis to minimize odour, pest and litter impacts.

(e) Construction Waste

(i) Construction Waste would mainly arise from the project construction activities and from the demolition of existing structures where necessitated. It includes unwanted materials generated during construction, rejected structures and materials, materials that have been over-ordered and materials, which have been used and discarded such as:

- Material and equipment wrapping packaging material
- Unusable/surplus concrete/grouting mixes
- Damaged/contaminated/surplus construction materials; and
- Wood from formwork and false work.

(ii) Also, demolition of buildings and houses to accommodate station buildings and construction depots will generate concrete rubble, plastics, metal, glass, asphalt from surfaces, wood and refuse.

(iii) Waste from excavation would comprise soil, rubble, sand, rock, brick etc.

(iv) It is estimated that construction activities used generate 2.5mm<sup>3</sup> of soil, majority of which will be used for filling purpose.

(f) Chemical Waste

(i) Chemical waste is likely to be generated by construction and maintenance activities. For those processes, which generate chemical waste, it may be possible to find alternatives, which generate reduced quantities or even no chemical waste, or less dangerous types of chemical waste.

(ii) The contractor should explore the possibilities given in (i) above and produce evidence of acceptable disposal methods (e.g., waste transfer) to the Employer's Engineer.

(iii) Containers used for the storage of chemical waste should:

- Be suitable for the substances they are holding, resistant to corrosion, maintained in good condition, and securely closed.
- Be of adequate capacity and
- Display a label in English and local language as to the contents, quantity and safe method of disposal in accordance with instructions contained in MSDS.

(iv) The storage area for chemical waste should:

- Be clearly labelled and used solely for the storage of chemical waste;
- Be enclosed on at least three sides;
- Have an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in that area, whichever is higher
- Have adequate ventilation;
- Be covered to prevent rainfall entering and
- Be arranged so that incompatible materials are adequately separated.

(v) Disposal of chemical waste should be through a licensed waste collector, duly

authorized by MoEF or State Pollution Control Board as the case may be. License of the waste collector shall be shown to the Employer's Engineer on demand.

- (vi) The Contractor should maintain an inventory of chemicals, solvents and adhesives. He should minimize disposal of excess material, reuse when applicable and dispose of chemical waste properly. He should prepare a plan that identifies proper ventilation, protected clothing and personal protective equipment.
- (vii) The Contractor should have a point of contact, who will maintain the above information and also conducts periodic inspections.

(g) Hazardous Waste

- (i) Classification of waste as Hazardous shall be in accordance with Hazards Waste (Management & Handling) Rules 1989, and 2003 or its latest amendment.
  - (ii) The Contractor shall identify all the hazardous waste generated as a result of his activities. If such waste is generated then the Contractor shall apply to State Pollution Control Board for 'authorisation' according to Form 1 of the Hazardous Waste (Management & Handling) Rules and dispose the same only to currently authorised recyclers( a list of which can be obtained from State Pollution Control Board) under intimation to the Employer's Engineer.
  - (iii) The Rules given in (I) above shall govern the Classification, Handling, Storage and disposal of such Hazardous Waste.
  - (iv) Hazardous waste would mainly arise from the maintenance of equipment. These may include, but not be limited to, the following:
    - Used engine oils, hydraulic fluids and wasteful;
    - Spent mineral oils/cleaning fluids from mechanical machinery;
    - Scrap batteries or spent acid/alkali; and
    - Spent solvents/solutions, some of which may be derived, from equipment cleaning activities.
  - (v) For disposal of waste requiring special attention and hazardous waste the contractor shall enter into agreement with authorised agencies dealing with the same.
  - (vi) The hazardous waste shall be stored on an impermeable surface with containment bunding to retain leaks, spills and ruptures.
  - (vii) Waste oil and chemical containers shall be delivered to the Contractor's Storage yard. The Contractor is responsible for the correct storage and handling of waste oil/waste chemical containers for such a time until they are transported to the chosen disposal area or waste oil containers.
  - (viii) All waste collection containers shall be of appropriate size with a closed lid. Each container will be clearly labelled both with a colour code system and labelled in local language and English. Original labels of empty containers should be completely covered and the contents of the type of waste stored in the used containers clearly indicated.
- (h) Storage and Segregation of Waste
- (i) Disposal and collection points should be established around all construction work sites. The waste containers should be of at least 50L/100L
  - (ii) Burning of refuse at construction sites is not permitted.

- (iii) The contractor shall enter into a contract with a licensed organisation to collect waste from Construction depots, Labour Colony etc. and dispose it at their landfill as per existing norms.
- (iv) The Contractor is responsible for the separation of construction and demolition material into re-usable and non-reusable materials, and transfer of these materials to low lying areas or landfills, depending on the type of material and the percentage of inert material.
- (v) Segregation of Waste should be done on site. All construction waste including debris should be sorted on site into inert and non-inert components as given in Table - I. Different areas of the worksites should be designated for such segregation and storage wherever site conditions permit.

**Table–1 Storage of Waste**

<b>Waste Container</b>	<b>Colour Code</b>	<b>Sign</b>
Landfill / Biodegradable	Green	Waste
Recyclable	Blue	Paper & Plastic
Burning / Combustible	Red	Burning
Scrap Metal	Brown	Metal

- (vi) On-site measures promoting proper segregation and disposal of construction waste should be implemented e.g. provide separate containers for inert (rubber, sand, stone etc.) and non-inert (wood, organics etc.) wastes. The inert waste should be used on site before disposed of at filling area and the non-inert waste should be sorted for re-use or recycling before being transported to landfills
  - (vii) Non-inert materials such as wood, glass and plastic are acceptable for disposal to a landfill as a last resort if these can no longer be reused or recycled.
  - (viii) Inert materials such as excavated materials comprising soil, rubble, sand, rock, brick and concrete should be separated and broken down to size suitable for subsequent filling in low lying areas, if it is determined that such material can no longer be reused at the site itself.
- (i) Reuse and Recycle
- (i) If some good quality reusable topsoil is expected from site clearance works it shall be locally stockpiled and used later in final landscaping works, thus saving on costs for such works and transportation and environmental impacts of disposal.
  - (ii) The design of framework should maximize use of wooden panels so that high reuse levels can be achieved. Alternatives such as steel framework should be considered to increase the potential for reuse.
  - (iii) The Contractor should recycle as much of the construction waste as possible on-site.
  - (iv) Excavated materials are usually inert such as soil and rock, and can normally be reused on site or in public filling areas. The excavated material may have to be temporarily stockpiled on-site for subsequent-use.

- (v) Steel and other metals should be recovered from the construction waste and recycled as far as practical. If possible, scrap steel mills can use steel bars.
- (j) Transportation of Waste
  - (i) The transportation of construction spoil shall be allowed only to officially designated dumpsites after obtaining necessary permission from appropriate authority.
  - (ii) A procedure to facilitate tracking of loads should be developed to prevent illegal disposal of waste. This procedure should include, inter alia, the name of driver, vehicle registration number, type and quantity of waste, place and time of origin, place of disposal and route of haulage
  - (iii) In orders to avoid dust or odour impacts, vehicles leaving a site carrying excavate should have their load covered. Vehicles should be routed as far as possible to avoid sensitive receivers in the area.
  - (iv) Contractors who produce significant quantities of scrap are obliged to enter into agreement with authorised dealers of scrap for its disposal. Copies of such agreements shall be shown to the Employer's Engineer on request.
- (k) Training
  - (i) The Contractor's Environmental Department is responsible for training of workers and personnel involved in generation of waste.
  - (ii) The Contractor shall provide training for workers about the concepts of site cleanliness and appropriate waste management procedure, including waste separation, reduction, reuse and recycling. Failure to do so would result in poorly separated waste, resulting in difficulties in treating the waste correctly and/or a bad market for reuse/recycling.
  - (iii) The awareness will be created through briefings and toolbox talks. The personnel/workers should be trained in waste classification and separation. The training should include:
    - Organic waste
    - Combustible waste
    - Hazardous waste
    - Minimization of waste
  - (iv) Separation awareness training shall be given to employers responsible for the separation of the waste and information regarding waste separation shall be posted at appropriate locations around the site.

## 10. Housekeeping

The Contractor shall constitute a special group of housekeeping personnel in charge of each work section. Senior engineer of each section shall be responsible for housekeeping at their respective sites.

Each section of work site shall maintain the site reasonably clean, keep free from obstruction and properly store any construction equipment, tools, and materials. Any wreckage, rubbish shall be temporarily stored in wreckage and rubbish bins. These wreckage and rubbish bins shall be cleaned at frequent intervals. Special housekeeping group will ensure daily cleaning work at the site and its surrounding areas.

General Housekeeping shall be carried out and ensured at all times at work sites, Labour

#### Camps, Stores and Offices.

Full height fence, barriers etc. will be installed at the site in order to preserve the surrounding area from excavated soil, rubbish etc which may cause inconvenience to public.

The Contractor will ensure that all sub-contractors maintain the site reasonably clean through the sub-contract's provision related to housekeeping.

The Contractor's designated department through daily pre-work meeting (tool box talk), safety meeting etc. will impart the necessary introduction and education to labour on housekeeping. Other staff such as supervisors and engineers working at the site will also be educated on the necessity of good housekeeping.

Every individual would be responsible for housekeeping in his area i.e.

- At Work Site: All workers should clean their work place after completion of their job. Supervisor should ensure good housekeeping of their respective work area through their workers. Section Managers shall ensure housekeeping in their area through their supervisors. Contractor's designate department will monitor this activity through section manager as well as site supervisor.
- At Labour Camp: All workers should be responsible to maintain good housekeeping and hygienic condition in their respective rooms/dormitories. The Contractor should ensure the availability of dustbins at required place and regular cleaning of rooms, kitchens, toilet blocks and dustbins. Safe disposal of all waste materials should also be ensured. Arrangement for regular fumigation should be made by the contractor.
- At Store: Proper access and stacking shall be ensured at the Stores. A list will display daily stock of materials. All work material should be stored in clearly marked containers or at designated storage area.
- At Office: Everyone is responsible to maintain housekeeping of their work station. Disposal of waste materials (i.e. stationary, cigarette butts, tea bags etc.) must be in dustbin only.

#### Avoidance of Nuisance

- (a) The Contractor shall take all precautions to avoid any nuisance arising from his operations. This shall be accomplished, wherever possible by suppression of nuisance at source rather than abatement of the nuisance once generated.
- (b) Following site clearing and before construction, the Contractor shall remove all trash, debris and other weeds.
- (c) The Contractor shall ensure that the work place is free of trash, garbage, debris and weeds.
- (d) The Contractor shall provide at site, metal or heavy-duty plastic 'Refuse Containers' with tight fitting lids for disposal of all garbage or trash associated with food.
- (e) To keep the area free of litter and garbage, specific locations shall be designated for consuming food and snacks to prevent random disposal of waste. All waste shall be deposited in the refuse containers. Suitable all weather signage shall be prominently displayed for compliance of these requirements.
- (f) The refuse containers shall be kept upright with their lids shut. These containers shall be emptied at least once daily by the Contractor to maintain site sanitation. There shall be different containers for bio-degradable/recyclable and hazardous (flammable) wastes.
- (g) All plants/equipment/machinery shall be well maintained by regular servicing and kept free from oil/grease dripping. Drip pans of suitable size shall be used to collect oil

leakages and spills. The area shall be cleaned after completion of maintenance/repair and generated waste disposed off in approved manner.

- (h) The contractor shall make available Material Supply Data Sheet (MSDS) for material/chemicals/substances used, for which these are available to the Employer's Engineer when requested.
- (i) Such material/chemicals/substances used shall be treated, handled, stored, transported and disposed off, by the contractor, in a manner specified in the MSDS.

#### Prevention of Mosquito Breeding

- (a) Measures shall be taken to prevent mosquito breeding at site. The measures to be taken shall include, but not limited to, the following:
  - (i) Construction run off shall not be allowed to stagnate at work sites specially at construction depots and batching plant locations, by executing an efficient drainage system and/ or levelling off low lying areas;
  - (ii) Empty cans, oil drums, packing and other receptacles which may retain water shall be deposited at a central collection point and shall be removed from the Site regularly;
  - (iii) Still waters shall be treated at least once every week with oil in order to prevent mosquito breeding;
  - (iv) Contractor's Equipment and other items on the Site, which may retain water, shall be stored, covered or treated in such a manner that water could not be retained.

Posters in both local language and English which draw attention to the dangers of permitting mosquito breeding shall be displayed prominently on the site.

## 11. Energy Management

By using energy efficiently, the same services can be delivered with less energy, which helps protect the environment by preventing pollution.

The Contractor should optimize the use of tools and plants and equipment to perform tasks with correct power. Optimizing cable sizes and joints can control voltage drops.

The Contractor should use energy efficient pumps (at least 80% efficiency) and motors (95% efficiency or more). The efficiency should be measured during installation and also periodically.

The Contractor should use Diesel Generating sets that have specific fuel consumption of at least 3.5 units per litre of diesel. The Contractor should rigorously follow the maintenance regime of his DG sets.

The Contractor should maximize the use of energy efficient luminaries such as CFLs and T5 florescent tubes, metal halide lamps and similar and ensure optimum illumination levels to save energy. The Contractor shall make provision of Earth Leakage Circuit Breakers (ELCBS) to prevent loss of excessive earth currents which are unsafe.

The Contractor should plan in advance and select locations to receive and store material such that these are at the least distance from place of use. Such an approach will result in less energy being consumed since optimum energy will be expended for transport of material.

The Contractor should plan works in a manner as to avoid reworking especially during meeting the interface requirements of systems contractor.



**12. Traffic Management**

Traffic Management for the project includes public roadways and sidewalks and the maintenance of access to residence, business and public services throughout the construction area. Traffic delays and reduction in roadways capacity are anticipated during aspects of the construction of the TidelPark.

Even though vehicular, pedestrian and surface transit traffic will be impacted at a few locations, the contractor should minimize such impacts through the development of Traffic Management Plans, which will be submitted in advance to the Employer's Engineer for his notice of no objection. These plans will provide specific guidance on traffic management for various portions of construction zones and staging.

The types of mitigation measures to be implemented by the Contractors will be on a site-specific basis and will include

- Signage and barriers for protecting and guiding pedestrians
- Detour signs placed at strategic locations

Wherever heavy equipment like cranes or dozers have to be moved on public roads and the normal moving dimensions are infringed, these shall be moved under advice to traffic police, and with adequate precautions and at low speed.

**13. Archaeological and Historic Resources**

During the construction period, archaeological or historic resources may potentially be affected by direct or indirect construction activity. If any such structures are likely to be affected, special measures to be initiated with the notice of no objection of the Employer's Engineer.

Prior to the initiation of construction Employer's Engineer intends to review a resource protection plan for historic structures where it appears that they may be affected by the project. This plan will be developed by the Contractor in consultation with The Archaeological Survey of India(ASI).

The plan will identify the sensitive resources as well as specify the construction monitoring requirements. These requirements may include ground vibration monitoring and recording any components inadvertently subjected to impact.

If the project is likely to affect a previously unidentified historic property, work in that area shall cease until actions that will take into account the effect of the undertaking on the property can be implemented. The Contractor shall consult the Employer's Engineer before proceeding further in such an event.

**14. Environmental Monitoring - General**

The Contractor's Environmental Team shall carry out the monitoring of environmental impacts during construction. Representative sensitive receivers in the vicinity of the works shall be monitored for noise, water and air quality impacts.

For carrying out impact monitoring for noise and air, equipment shall be provided, operated and maintained by the Contractor. The equipment shall be kept in a good state of repair in accordance with the manufacturer's recommendations and maintained in proper working order with sufficient spare equipment available in the event of breakdown to maintain the planned monitoring programme.

The calibration of monitoring instruments and their respective calibrators shall be carried

out in accordance with the manufacturer's requirement to ensure they perform to the same level of accuracy as stated in the manufacturer's specifications.

Suspended Particulate Matter (SPM) levels shall be measured by following the standard high volume sampling method as set out in High Volume Method for Suspended Particulate, BIS: 5182-1981. Respirable Particulate Matter (RPM) shall be measured in accordance with BIS 5182 Part4.

24-hour average SPM concentration shall be measured by drawing air through a High Volume Sampler (HVS) fitted with pre-weighted Glass Fibre filter paper at an average flow rate not less than 1.1m<sup>3</sup> per minute. Similarly for RPM, Respirable dust sampler, fitted with pre-weighted Glass Fiber and an average flow rate of not less than 1.1m<sup>3</sup>/minute shall be used. The duration of monitoring of RPM shall be 24hrs.

The minimum requirements to the specifications of sound level meter are given in IS: 9779-1981.

The Contractor's monitoring programme is summarised in Table-3.

**Table –3**

**Summary of Contractor's Environmental Monitoring Programme (Tentative)**

Parameter	Noise	Air	
		SPM	RPM
Sampling	Day Time (6 AM – 10PM) Lmax, Leq, L10,L90	24 hour	24 hour
	Night Time (10PM – 6AM) Lmax, Leq, L10,L90		
Frequency at each location	Once a week (when noise- generating activities are underway.	Two 24 hours samples every week.	Two 24 hours sample every week
Locations and number	To be determined, by the Contractor and approved by the Employer's Engineer based on noise sensitive receptors, but at least at, Batching Plant and sensitive sites such as school, hospital archaeological sites etc.	To be determined by the Contractor and approved by the 'Employer's Representative, based on air sensitive receptors, but at least Batching Plant and sensitive location like school hospital archaeological site etc. are to be monitored	To be determined by the Contractor and approved by the Employer's Engineer , based on air sensitive receptors, but at least, Batching Plant and sensitive location like school hospital archaeological site etc. are to be monitored
Duration of Monitoring by Contractor	During Erection	During Erection	

The above indicated Contractor's Environmental Monitoring Programme is mandatory and any additional monitoring, with respect to additional environmental attributes (like surface water & ground water, soil etc.), additional locations, frequency, parameters etc., as directed by the Employer's Engineer, will have to be undertaken by the Contractor.

## 15. Air Monitoring

Construction activities that will generate dust impacts include excavation, material handling and stockpiling, vehicular movement, and wind erosion of unpaved work areas.

The impact of fugitive dust on ambient air pollution depends on the quantity generated, as well as the drift potential of the dust particles injected into the atmosphere. Large dust particles will settle out near the source and smaller particles are likely to undergo dispersal over greater distance from the sources and impeded setting. SPM and RPM levels will be monitored to evaluate the dust impact during the construction phase of the Project.

The Air Quality Monitoring and Control Plan (AMCP) in contract-specific Site Environmental Plan prepared by the Contractor shall establish procedures to monitor impact air quality and measures to control air pollution including dust suppression due to construction activities at work sites. This plan shall contain description of activities that will cause degradation in air quality, environmental procedures to manage pollutants, monitoring programme record keeping and reporting.

The Employer's Engineer shall monitor Contractor's performance of tasks specified and will inspect necessary records, reports and procedures related to the control of air quality given in AMCP.

Information gathered during the AMCP will be catalogued and maintained by the Contractor and shall be available for review by the Employer's Engineer.

The exact location of the air monitoring stations located near air sensitive receptors adjoining the construction sites, such as residences, schools, and hospitals and placement of monitoring equipment shall be agreed with the Employer's Engineer prior to commencement of air monitoring programme.

Impact monitoring during the course of the Works shall be carried out at the monitoring stations for two days (continuous twenty-four hours) every fifteen days and where there is a perceived air quality problem.

The Contractor should construct suitable fence, lockable gate, 220V AC power point and suitable access at each air monitoring station. Monitoring stations should be free from local obstructions or sheltering.

Should impact monitoring record dust levels which are:

- ◆ Indicative of a deteriorating situation such that closer monitoring is reasonably indicated, or
- ◆ When in the opinion of the Employer's Engineer additional measurements are required in view of deteriorating air quality;

Then, the Employer's Engineer may require the Contractor to increase the frequency of impact monitoring at any one or more of the monitoring stations until the results indicate an improving and acceptable level of air quality.

The Contractor shall keep records of air quality monitoring (including location, date, time). The Contractor shall submit a copy of monitoring results to the Employer's Engineer. The results should represent a statistical evaluation of data by calculating maximum, minimum,

mean, for valuation of trends, and comparison with emission standards.

The National Ambient Air Quality Standards given in Air (Prevention and Control of Pollution) Act, 1981 may be referred by the Contractor for Limit Levels of SPM and RPM in ambient air which may be followed in estimating the pollution level caused by Contractor's activities.

Where the Employer's Engineer determines that the recorded SPM level is significantly greater than the Limit levels, the Employer's Engineer may direct the Contractor to take effective remedial measures including, but not limited to, reviewing dust sources and modifying working procedures.

Where the recorded baseline levels exceed the ambient air quality standards, then at such locations the limit level is the recorded base line. Contractor shall take all effective remedial measures to contain the levels to their baseline value as a result of his activities.

The Contractor should inform Employer's Engineer of all steps taken to investigate cause of non-conformance and immediate action taken to avoid further occurrences through written reports and proposals for action.

## **16. Noise Monitoring**

The activities which are expected to cause noise during the construction include noise from construction equipment, construction activities such as portal construction, earthwork excavation, concreting, removal of spoil, movement of construction vehicles and delivery vehicles travelling to and from the construction and disposal sites etc.

The level of impact of these noise sources depends upon the noise characteristics of the equipment and activities involved the construction schedule, and the distance from noise sensitive receptors.

The Noise Monitoring and Control Plan (NMCP) in contract specific site Environmental Management Plan prepared by the Contractor shall establish procedures to monitor construction noise and determine when to apply measures to control noise pollution due to construction activities at works site.

The NMCP will provide site description, define acceptable noise monitoring equipment, provide monitoring locations and operating procedures for noise equipment and indicate reports and record keeping on noise monitoring data.

The NMCP will provide guidance for construction activity. It shall also address noise performance criteria used in the selection of construction equipment. In defining the requirements of the NMCP, available measures for noise control, such as, the use of equipment with special exhaust silencers or enclosures, and the construction of temporary enclosures or noise barriers around specific construction site activity areas shall be considered.

The NMCP will be reviewed on a regular basis and updated as necessary to assure current construction activities are addressed.

The Employer's Engineer shall monitor Contractor's performance of tasks specified, and will inspect necessary records, report and procedures related to the control of noise.

Noise monitoring shall be carried out at noise sensitive receptor locations within 200 feet of the construction site once each week and after a change in construction activity. Construction noise measurements shall coincide with daytime and night-time periods of maximum noise generating construction activities.

The appropriate parameter for measuring construction noise impacts shall be the equivalent A-weighted sound pressure level (Leq) measured in decibels (dB). The two

statistical sound levels L10 and L90; the level exceeded for 10 and 90 percent of the time respectively, shall also be recorded during monitoring. The L90 may be considered as the ambient level into which the L10 as average peak level intrudes. The Lmax, Leq, L10 and L90 values will be reported in the noise measurement form along with allowable noise limit. The duration of monitoring shall be on hourly basis for 24hours.

In no case shall the Contractor expose the public to construction noise levels exceeding 90dBA(slow) or to impulsive noise levels with a peak sound pressure level exceeding 140dB as measured on an impulse sound level meter.

Limit for construction noise is based on the existing ambient noise levels in areas adjoining the construction sites. If the measured noise levels exceed the noise limits, the noise levels shall be reduced by appropriate abatement measures.

The noise levels emanating from any source during construction, shall not exceed 10 dB(A) or more above existing ambient pre-construction noise levels when measured at a point outside the premises of the location of source. The same may be varied from time to time by and at the sole discretion of the Employer's Engineer.

The construction activities shall be limited to levels measured at a distance of 200 feet from the construction limits or at the nearest affected building, whichever is closer, as given in Table -4.

**Table- 4**  
**Allowable construction noise**

LAND USE	MAXIMUM NOISE LEVELS – L <sub>max</sub> dB (A)	
Residential	Day Time 75	Night Time 65
Commercial	At all Times 85	
Industrial	90	

Deleted

At the surface of the construction site during night time hours, the Contractor shall use only equipment that operating under full load meets the noise limits specified in **Table-5**, if a sensitive receptor would be affected.

**Table - 5**  
**Noise emission limits for construction equipment measured at 50 feet from construction equipment\***

Equipment Category	L <sub>max</sub> Level dB(A)
Backhoe	80
Bar Bender	75
Chain Saw	81
Compactor	80
Compressor	80

Concrete Mixer	85
Concrete Pump	82
Crane	85
Dozer	85
Front End Loader	80
Generator	82
Gradall	85
Grader	85
Paver	85
Pneumatic Tools	85
Scraper	85

<b>Equipment Category</b>	<b>L<sub>max</sub> Level dB(A)</b>
Tractor	84

Should the impact monitoring record noise levels which are:

- indicative of a deteriorating situation such that closer monitoring is reasonably indicated, or
- when in the opinion of the Employer's Engineer additional measurements are required in view of deteriorating noise environment,

then, the Employer's Engineer may require the Contractor to increase the frequency of impact monitoring at any one or more of the monitoring stations until the results indicate an improving and acceptable level of noise.

The Contractor shall inform the Employer's Engineer of all steps taken to investigate cause of non-conformance and immediate action taken to avoid further occurrences through written reports and proposals for action.

The Contractor shall submit a copy of monitoring results. The results should represent a statistical evaluation of data for evaluation of trends and comparison with noise emission standards.

Where the Employer's Engineer determines that the recorded Noise level is significantly greater than the acceptable levels, the Employer's Engineer may direct the Contractor to take effective remedial measures including, but not limited to, reviewing noise sources and modifying working procedures.

Protection against the effects of occupational noise exposure should be provided when the sound levels exceed those shown in Table No. 6 below when measured on the A-scale of a standard sound level meter at slow response.

When employees are subjected to sound levels exceeding those listed in the Table No. 7 feasible administrative or engineering controls should be utilized.

If such controls fail to reduce sound levels within the levels of the table, personal protective equipment shall be provide and used to reduce sound levels within the levels of the table.

**Table – 7**  
**Permissible Noise Exposures**

<b>Duration per day, Hours</b>	<b>Sound level (slow Response)</b>
8	90
6	92
4	95
3	97
2	100
1 ½	102
1	105
½	110
¼ or less	115

When the daily noise exposure is composed of two or more periods of noise exposure of different levels, their combined effect should be considered, rather than the individual effect of each. Exposure to different levels for various periods of time shall be computed according to the formula as given below.

$F_e = (T_1/L_1) + (T_2/L_2) + \dots + (T_n/L_n)$  where,

$F_e$  = the equivalent noise exposure factor.

$T$  = the period of noise exposure at any essentially constant level.

$L$  = the duration of the permissible noise exposure at the constant level (from Table)

If the value of  $f$  exceeds unity (1) the exposure exceeds permissible levels.

A sample computation showing an application of the above formula is as follows. An employee is exposed at these levels of these periods:

11 dB(A) 1/4 hour.

100 dB(A) 1/2 hour.

90 dB(A) 1/2 hours.

Then,

$F_e = (1/41/2) + (1/2/2) + (1\ 1/2/8)$

$F_e = 0.500 + 0.25 + 0.188$

$F_e = 0.938$

Since the value of  $F_e$  does not exceed unity, the exposure is within permissible limits.

The vibration level limits at work sites adjacent to the alignment shall conform to permit values of peak particle velocity as give in Table No.8.

**Table 8**  
**Permitted Values of PPV**

Sl. No.	Condition of Structure	Max. PPV in mm/sec
1.	Most structures in “good condition”	25
2.	Most structures in “fair condition”	12
3.	Most structures in “poor condition”	5
4.	Water supply structures	5
5.	Heritage structures/bridge structures	5

When Diesel Generator (DG) Sets are used for operation of equipment and machinery, then Ministry of Environment and Forest notification dated 17<sup>th</sup> May 2002, issued under Environment Protection Act (Protection) Rules, 1986, on noise limits shall apply.

#### **17. Environmental Site Inspection**

Site inspection shall be undertaken by the Contractor's staff to inspect the construction activities in order to ensure that appropriate environmental protection and pollution control measures are properly followed and implemented. The frequency of site inspection shall be at least once a week.

The Contractor shall prepare an ‘Environmental Inspection and Action Reporting System’, submit to the Employer's Engineer for notice of no objection and make amendments as suggested. It shall contain a contract specific comprehensive Environment Inspection checklist as requirement of Site Environmental Plan.

The area of inspection shall not be limited to environmental compliance within the site but areas outside the site which are likely to be affected, directly or indirectly by activities at site.

Results of inspection shall be discussed with Employer's Engineer and his recommendations on better environmental protection shall be notified to the Contractor for taking immediate action and rapid resolution of identified non- compliance.

If significant environmental problems are identified or if there is an environmental complaint or as a part of investigation work, then the Employer's Engineer shall also carry out Ad hoc site inspection which shall be attended by Contractor's Representative.

#### **18. Environmental Audits**

As indicated earlier in this EMA, the Employer's Engineer may undertake regular audits at quarterly intervals, of the Contractor's onsite practices and procedures as a means of assessing the ongoing performance of the Contractor.

A checklist of environmental requirements will be prepared and amended as necessary, throughout the construction phase to focus on areas of frequent non- compliance and to reflect the potential impacts associated with specific activities within the construction programme

The criteria against which the review will be undertaken will be derived from (but not be limited to):

- (a) The approaches, procedures and commitments given by the Contractor in the ‘Site Environmental Plan’



- (b) The clauses contained within the Employer's Engineer's Requirement on Environment.
- (c) The allocation of responsibility for fulfilling environmental requirements and the effective lines of communication with regard to environmental issues;
- (d) Compliance with procedures established to enable and effective response to environmental incident or non-compliance;
- (e) The extent and accuracy of record-keeping related to environmental performance indicators;
- (f) The effectiveness of ensuring high levels of awareness with regard to environmental requirements; and
- (g) The effectiveness of environmental management activities, including the speed and effectiveness of responses to complaints.

The likely protocol will include (but not limited), the auditing of the following activities:

- The allocation of responsibility for fulfilling environmental requirements and effectiveness of lines of communication.
- Compliance with procedures established to enable effective response to environmental issues.
- The extent and accuracy of record keeping related to environment.
- The effectiveness of staff training ensuring high levels of awareness with regard to environmental requirements.
- The speed and effectiveness of responses to complaints.

The criteria against which the audits will be undertaken shall be derived from the clauses within the Employer's Engineer's Requirements contract-specific Site

Environmental Plan and previous site inspection results.

## **19. Reporting System**

Reporting under the Environmental Management System will contain results of monitoring and inspection programmes.

In Site Environmental Plan, the Contractor shall prepare and submit monthly Environmental Management Reports in accordance with Employer's Engineer's Requirements.

The monthly report shall include (but not limited to) the following:

- Executive Summary
- Brief mention of construction activities
- Monitoring results under AMCP, and NMCP
- Interpretation of monitoring results, significance and influencing factors
- Graphical representation of monitored results over past four reporting periods.
- Details on Fly ash consumption as given in Appendix-III.
- Raw material consumption details such as electricity, diesel, water
- Generation of scrap during the month and sold to authorized recyclers
- Generation of other type of waste and sold to respected authorized buyers.

- Measures to control spills
- Action taken on recommendation under site inspection programme or specific directions.
- Summary of complaints, results of investigations and follow-up action
- Future key issues.

## **20. Complaint Response Process**

Enquiries, complaints and requests for information can be expected from a wide range of individuals and organisations both private and government. The majority of complaints is likely to be received by TIDEL, although the site offices are also likely to be contacted.

The objective of complaint process is to ensure that public and agency complaints are addressed and resolved consistently and expeditiously.

The Contractor's Site Manager will be notified immediately on receipt of complaint that may relate to environmental impacts. The Site Manager will immediately inform the Employer's Engineer.

Field investigation should determine whether the complaint has merit, and if so action should be taken to address the impact.

The outcome of the investigation and the action taken shall be documented on a complaint Performa prepared by the Contractor and submitted for notice by the Employer's Engineer in advance of the works.

Where possible, a formal response to each complaint received shall be prepared by the Contractor within seven days in order to notify the concerned person(s) that action has been taken.

## **21. Completion of the EMA Programme**

The construction of TIDEL Park will be undertaken as a series of individual construction contracts with necessarily different construction programme and completion dates.

The Employer's Engineer shall maintain an overview of the 'impact causing potential' of each site, monitoring parameter or contract with a view to maintaining the most cost effective use of the environmental resources dedicated to the Project.

For release of final bill the contractor shall ensure

- Closure of all non-conformance reports
- Submittal of all environment related documents and records pertaining to monitoring and trend analysis on key parameters such as but not limited to consumption/efficient use of resources such as energy, water, material such as cement, fly ash, iron and steel, recycle/reuse of waste etc that shall demonstrate continual improvement in the implementation of Environmental Management System

**Appendix –I SITE ENVIRONMENTAL PLAN OUTLINE**

<b>SI. NO.</b>	<b>SITE ENVIRONMENTAL PLAN OUTLINE</b>
<b>1</b>	<b>GENERAL</b>
(i)	The Environmental Policy of the Contractor is clearly defined in the Site Environmental Plan, which, inter-alia, commits the Contractor to follow national and state environmental legislation and regulations.
(ii)	The Contractor is committed to TIDEL's Environmental Management System and shall provide desired manpower and financial resources for its success
(iii)	The person responsible for day-to-day environmental matters is identified and vested with authority to execute the Site Environmental Plan.
(iv)	Procedure is available for Contractor's system of enforcing good environmental practices of its Sub-contractor.
(v)	The Site Environmental Plan contains procedures for screening material used in the contract, for their environmental friendliness.
<b>2</b>	<b>ENVIRONMENTAL FRIENDLY CONSTRUCTION PRACTICES</b>
(i)	The Site Environmental Plan must contain specific procedures for achieving environmental performance requirements as given in the Employer's Engineer 's requirement on Environment and TIDEL Environmental Management Manual.
(ii)	Procedures for carrying out Aspect/Impact analysis of contractor's proposed works and their affect on environment.
(iii)	Procedures for setting up Objectives and Targets commensurate with Employer's Engineer 's requirement on Environment and TIDEL Environmental Management Manual and how these shall be met.
(iv)	Procedures for formulating Environmental Management Plans and Operational Control Procedures to meet contractual requirements.
(v)	Procedures for offering environmental training and methods for promoting environmental awareness amongst his employees.
(vi)	The SEP must contain details on Air Monitoring and Control Plan which details Mitigation measures / Corrective Action / Preventive Action and Monitoring Schedule.
(vii)	The SEP must contain details on Noise Monitoring and Control Plan which Details Mitigation measures / Corrective Action / Preventive Action and Monitoring Schedule.
(viii)	The SEP must contain procedures on prevention and control of water pollution from sanitary surface runoff and process wastewater.
(ix)	The SEP must contain details on procedures for Storage, handling and disposal of waste including, municipal, construction, chemical and hazardous wastes.

(x)	The SEP must contain procedures for reuse/recycle of waste, selling to authorised recyclers and records thereof.
(xi)	The SEP must contain procedures for preservation of landscape disturbed due to construction, housekeeping and traffic management as required under the contract.
(xii)	The SEP must contain procedures for dealing with unforeseen environmental situations under Environmental Emergency.
Sl. No.	SITE ENVIRONMENTAL PLAN OUTLINE
3	MONITORING, AUDITS AND RECORDS
(i)	The Contractor keeps records of monitoring and the SEP contains provision for reporting results of environmental monitoring in a manner as specified in the contract.
(ii)	The Contractor carries out weekly inspection under the 'Environmental Inspection and Action Reporting System' through Environmental Inspection checklist and submits to the Employer's Engineer .
(iii)	The SEP contains procedures for mandatory audits by the contractor as given in the contract.
(iv)	The SEP contains provisions for submitting monthly Environmental Quality Management reports.
(v)	The SEP contains procedures for recording environmental complaints and response process.

**Appendix – II Weekly Environmental Inspection Checklist****SUMMARY SHEET**

1. Major issues of non-conformity in the past week are:

Issue	Reason
(i) Air(Specify)	
(ii) Water(Specify)	
(iii) Noise(Specify)	
(iv) Waste(Specify)	
(v) Storage(Specify)	
(vi) Housekeeping(Specify)	
(vii) Roads (Specify)	

2. Over the last week have been able to implement environmental management requirements as per contract

☐

Yes

☐

No

if not yes reasons are

(i)

(ii)

(iii)(iii)

3. Following issues have not been resolved for more than past two weeks (i)

(ii)

(iii)

4. Support/Clarification from Employer's Engineer required in the following: (i)

(ii)

(iii)

5. Complaints received in the past week.

(i) From

Action Taken

Reasons for Delay

(ii) Public

(iii) Client

(iv) Statutory Agency

Auditor:

Project Manager

Contract Number:

Contractor:

<b>Environmental Manager</b>	<b>Project Director</b>	<b>Document No.:</b>
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**Weekly Environmental Inspection**

<b>Report No.:</b>		<b>Inspection Date:</b>		<b>Inspected by :</b>	
<b>Inspection Area:</b>					
<b>Participants:</b>					
SL. NO.	ITEM	OBSERVATION	REMARKS	ACTION	
				By Date	By whom
<b>1.0</b>	<b>AIR POLLUTION</b>				
<b>1.1</b>	Dust (approach roads, adjacent roads, working area, cement handling etc.)	<input type="checkbox"/> Site Satisfactory <input type="checkbox"/> Site Dusty <input type="checkbox"/> Sprinkling carried out as required <input type="checkbox"/> Excavate removal within 2 days			
<b>1.2</b>	<b>Generators</b>	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Maintenance regime followed <input type="checkbox"/> Black smoke <input type="checkbox"/> Leaking oil <input type="checkbox"/> Drip Pans not available			
<b>1.3</b>	<b>Vehicles</b>	<input type="checkbox"/> Satisfactory <input type="checkbox"/> PUC certificate available <input type="checkbox"/> Black smoke <input type="checkbox"/> Wheel Washed/Cleaned <input type="checkbox"/> Leaking oil <input type="checkbox"/> Side of vehicle clear of mud <input type="checkbox"/> Material transported in closed manner			
<b>1.4</b>	<b>Air Monitoring</b>	<input type="checkbox"/> Carried out as per contract <input type="checkbox"/> Results reported as per contract			
		<input type="checkbox"/> Remedial measure in place where required			

SL. NO.	ITEM	OBSERVATION	REMARKS	ACTION	
				By Date	By whom
<b>2.0</b>	<b>WATER POLLUTION</b>				
<b>2.1</b>	<b>Site Drains</b>	<input type="checkbox"/> Drainage system functional <input type="checkbox"/> No Contamination <input type="checkbox"/> Not blocked by debris/garbage <input type="checkbox"/> No indications of Oil spilled ingrains <input type="checkbox"/> Storage of chemical waste not nearby			
<b>2.1</b>	<b>Site Drains</b>	<input type="checkbox"/> storage of refuse/ excavate muck not near the drains			
<b>2.2</b>	<b>Adjacent Drains</b>	<input type="checkbox"/> Not damaged <input type="checkbox"/> No signs of pouring betonies <input type="checkbox"/> No signs of pouring Chemicals <input type="checkbox"/> Signs of discharging Silt/ debris			
<b>2.3</b>	<b>Separator Tanks</b>	<input type="checkbox"/> Tank not full of silt <input type="checkbox"/> Tank regularly emptied			
<b>3.0</b>	<b>NOISE POLLUTION</b>				

<b>3.1</b>	<b>Noise control measures</b>	<input type="checkbox"/> All powered mechanical equipments are sound reduced <input type="checkbox"/> Acoustic / enclosures constructed in areas of excessive noise <input type="checkbox"/> Equipment located and directed away from noise receptors			
<b>3.2</b>	<b>Generators provided with acoustic enclosures</b>	<input type="checkbox"/> Effective <input type="checkbox"/> Not effective <input type="checkbox"/> Not provide			

SL. NO.	ITEM	OBSERVATION	REMARKS	ACTION	
				By Date	By whom
<b>3.3</b>	<b>Noise Monitoring</b>	<input type="checkbox"/> Carried out as per contract <input type="checkbox"/> Not exceeded baseline values <input type="checkbox"/> Remedial measures in place <input type="checkbox"/> Results evaluated statistically for inclusion in Monthly report			
<b>4.0</b>	<b>WASTE MANAGEMENT</b>				



<b>4.1</b>	<b>Waste Identified</b>	<input type="checkbox"/> Chemical Flammable <input type="checkbox"/> Corrosive Construction related/ oil/ Filters/ Batteries <input type="checkbox"/> Hazardous <input type="checkbox"/> Other(Specify)			
<b>4.2</b>	<b>Storage Containers &amp; Bins</b>	<input type="checkbox"/> Adequate number and properly place <input type="checkbox"/> Proper quality <input type="checkbox"/> Emptied regularly <input type="checkbox"/> Labelling proper <input type="checkbox"/> No spillage on container surface noticed			
<b>4.2</b>	<b>Storage Containers &amp; Bins</b>	<input type="checkbox"/> Pollutants (e.g. waste chemical), not dumped in bins <input type="checkbox"/> Recyclable (e.g. metal) not dumped in garbage bins			
<b>4.3</b>	<b>Oil Waste</b>	<input type="checkbox"/> Drip pans available <input type="checkbox"/> No oil stains on ground <input type="checkbox"/> Spill absorption material available <input type="checkbox"/> Waste oil poured in to designated waste drums <input type="checkbox"/> Used oil filters not dumped in garbage bins			

SL. NO.	ITEM	OBSERVATION	REMARKS	ACTION	
				By Date	By whom
4.4	Excavate/Muck	<input type="checkbox"/> Storage satisfactory/ properly secured <input type="checkbox"/> Dumping in authorized areas <input type="checkbox"/> No interference with nearby drainage			
5.0	STORAGE				
5.1	Diesel Storage	<input type="checkbox"/> Extensive diesel spillage on ground not visible <input type="checkbox"/> Drip pans used when pumping diesel <input type="checkbox"/> Pipes / connectors/ pumps not leaking <input type="checkbox"/> Not located close to storm water drains <input type="checkbox"/> transfer arrangement satisfactory			
6.	AESTHETICS & CEANLINESS				

<b>6.1</b>	<b>Housekeeping &amp; Hygiene</b>	<input type="checkbox"/> Designated storage area for materials <input type="checkbox"/> Scraps/brickbats/rubbish scattered at site <input type="checkbox"/> Proper space for handling waste <input type="checkbox"/> Area Clean and dry <input type="checkbox"/> Stagnant water treated weekly <input type="checkbox"/> Proper stacking of drums <input type="checkbox"/> Barricades are clean, in line, firmly secured and proper earthing <input type="checkbox"/> Water not allowed to accumulate in work area for any reason			
<b>7.0</b>	<b>ROADS</b>				
<b>7.1</b>	Access Roads	<input type="checkbox"/> Satisfactory Maintenance <input type="checkbox"/> In urgent need of Maintenance			
<b>7.2</b>	Public Roads used by Contractor	<input type="checkbox"/> Satisfactory maintenance <input type="checkbox"/> Repair not carried out			

WEEKLY ENVIRONMENTAL AUDIT		
<b>AUDIT No. : WEEK ENDING :</b>		
<b>PROGRESS IN THE LAST WEEK:</b>		
<b>PLANNING /GOALS FOR THE NEXT WEEK:</b>		
<b>Environmental Manager</b>	<b>Project Director</b>	<b>Document No.:</b>

## **SECTION V APPENDICES**

**APPENDICIES APPENDIX-A****FORM OF BANK GUARANTEE FOR RETENTION MONEY****BANK GUARANTEE**

Bank Guarantee No.: \_\_\_\_\_

Bank Guarantee Date: \_\_\_\_\_

1. This guarantee made on this \_(date) day of \_(month) , of \_(year) ,by  
\_\_\_\_\_(Bank) registered under the laws of India having corporate office at  
\_\_\_\_\_(Address) and branch office at (Address) \_\_\_\_\_(hereinafter  
called the “Bank”) in favor of \_\_\_\_\_(hereinafter called the  
“Employer”).
2. Whereas (Employer) \_\_\_\_\_ has awarded the contract dated (date) for  
(Contract Name) \_\_\_\_\_, (herein after called the contract) to  
M/s. \_\_\_\_\_(hereinafter called the “Contractor”).
3. And whereas the Employer has agreed not to recover retention money of  
INR \_\_\_\_\_(Amount in figures) \_\_\_\_\_(Amount in words \_) from the  
running bills for which the contractor agreed to submit the Bank Guarantee to the  
Employer.
4. Now we, \_\_\_\_\_(Bank), hereby declare that the said bank will  
guarantee the employer the full amount not exceeding  
INR \_\_\_\_\_(Amount in figures) \_\_\_\_\_, ( Amount in words ) that made  
up \_\_\_\_\_percent of retention money.
5. The bank is engaged to pay the Employer, any amount up to and inclusive of the  
aforementioned amount upon receipt of written demand on or before  
\_\_\_\_\_(date) \_\_\_\_\_from the employer and to indemnify to the extent of INR  
\_\_\_\_\_(Amount) \_\_\_\_\_to the Employer for any liability of the damage resulting  
from the applicant of retention money payment made by the Employer. The bank will  
deliver the money required by the Employer immediately on return demand received  
on or before \_\_\_\_\_(date) \_\_\_\_\_, without delay demur and without reference to the  
contractor or applicant and without the necessity of a previous notice or of judicial or  
administrative procedures and without it being necessary to prove to the bank the  
liability of the applicant. The bank shall pay to the Employer money so demanded not  
withstanding any dispute/disputes raised by the contractor or applicant in any suit or  
proceedings pending before any court, tribunal or arbitrator/s relating thereto and  
liability under this guarantee shall be absolute and unequivocal.
6. This guarantee is valid until \_\_\_\_\_(date) \_\_\_\_\_.
7. At any time during this period the guarantee is still valid, if the Employer agrees to  
grant a time extension to the Contractor or if the Contractor fails to complete the work  
within the time for completion as stated in the contract, It is understood that the bank  
will extend this guarantee under the same conditions for the required time on  
instruction by the applicant and at the cost of the applicant.

8. The guarantee here in before contained shall not be affected any change in the constitution of the bank or the contractor.
9. The neglect or forbearance of Employer in enforcement of payment of any moneys, the payment whereof if intended to be hereby secured or the giving of time by the Employer for the payment hereof shall in no way relieve the bank of their liability under this duty.
10. The expressions of the bank/the applicant and the contractor herein before used shall include the respective successor and assigns.
11. **Notwithstanding anything contained herein:**

(a) Our liability under this bank guarantee shall not exceed INR \_\_\_\_\_ (Amount) .

(b) This bank guarantee shall be valid upto \_\_\_\_\_ (date) \_\_\_\_\_, and

(c) We are liable to pay the guarantee amount or part thereof under this bank guarantee only if TIDEL Park Limited serves upon us a written demand on or before \_\_\_\_\_ (Date) \_\_\_\_\_ at \_\_\_\_\_ (Address) \_\_\_\_\_.

In witness where of we \_\_\_\_\_ and \_\_\_\_\_ of the \_\_\_\_\_ have signed and sealed this guarantee on the \_\_\_\_\_ (Date) \_\_\_\_\_ of \_\_\_\_\_ (Month) \_\_\_\_\_ of \_\_\_\_\_ (Year) \_\_\_\_\_ being herewith duly authorized.

**Date:**

**Place:**

**Signature of Authorized bank official:**

**1) Witness**

**2)**

**Witness**

Signature: \_\_\_\_\_

Signature: \_\_\_\_\_

Name : \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Address: \_\_\_\_\_

**APPENDIX – B****FORM OF BANK GUARANTEE FOR PERFORMANCE GUARANTEE**

(To be stamped in accordance with the Stamp Act of the country of Issuing Bank)

To

TIDEL Park Limited,

WHEREAS .....(Name of CONTRACTOR) .....the Consortium / Joint Venture consisting of

1. (Name of Lead Member of the Group and address)
2. (Name of Member of the Group and address)
3. (Name of Member of the Group and address)

**(here-in after called “the Contractor”),with M/s ..... has undertaken, in pursuance of NIT No:**

Name of Work:

**E-TENDER FOR Construction of IT Office Building, Ground Floor + 12 Floors + Terrace, Including Civil Construction, Interior Finishing Works, MEP Works and Other Allied Development Works at Mattuthavani in Madurai.**

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognised bank for the sum specified herein as security for compliance with his obligations in accordance with the contract in lieu of cash deposits held by you for such compliance with his obligations/performance Guarantee.

AND WHEREAS we have agreed to give the Contractor such as Bank Guarantee:

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor up to a total of .....(amount of Guarantee).....(in words), such sum being payable in Indian Rupees, and we hereby unconditionally, irrevocably and without demur undertake to immediately pay you, upon first written demand and without cavil or argument any sum or sums within the limits of .....(amount of guarantee) as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the contract or of the Works to be performed there under or of any of the contract documents which may be made between you and the Contractor shall in any way release us from any



liability under the guarantee and we hereby waive notice of any such change, addition or modification.

----

-----  
The Performance Bank Guarantee should be valid up to DLP of one year with a claim period of six months after end of DLP OR 'on the date on which all services and facilities are complete to the entire satisfaction of the Employer'; whichever is later i.e. up to-----

(as per the present construction schedule) and shall be suitably extended if the commissioning of the project is delayed for whatsoever reason. The pendency of any dispute or arbitration or other proceedings shall not affect this Guarantee in any manner.

SIGNATURE AND SEAL OF THE GUARANTOR

NAME OF BANK .....

ADDRESS .....

-----

DATE .....

Notes:

1. The stamp papers of appropriate value shall be purchased in the name of the Bank, who issues the **Bank Guarantee**'.

**AFFIDAVIT**

We have submitted Performance Bank Guarantee for the work of E-TENDER FOR Construction of IT Office Building, Ground Floor + 12 Floors + Terrace, Including Civil Construction, Interior Finishing Works, MEP Works and Other Allied Development Works at Mattuthavani in Madurai.

..... Agreement No. from (Name of the Bank) branch to the TIDEL Park Limited, Chennai with a view to furnish Performance Bond. This Bank Guarantee expires on ..... We undertake to keep the validity of the Bank Guarantee in force by getting it extended from time to time at our own initiative upto a further period of six months or as directed by TIDEL,.

We also indemnify TIDEL Park Ltd., against any losses arising out of non-encashment of the Bank Guarantee if any.

Notary Public Signature with stamp

**APPENDIX – C****DRAFT ARTICLES OF AGREEMENT (ITEM RATE) No.**

ARTICLES OF AGREEMENT made this ..... day of ..... between the **M/s TIDEL Park Limited, 4, Rajiv Gandhi Salai, Taramani, Chennai – 600113** (hereinafter called **The Employer** which expression shall where the context so admits include its successors in Office and assigns) of the One part

and

.....  
(Herein after called **The Contractor** which expression shall where the context so admits include his heirs, executors, administrators and legal representative) of the Other Part.

WHEREAS the TIDEL Park Limited is desirous of E-TENDER FOR Construction of IT Office Building, Ground Floor + 12 Floors + Terrace, Including Civil Construction, Interior Finishing Works, MEP Works and Other Allied Development Works at Mattuthavani in Madurai and has released E-Tender No. TIDEL/2024-2025/12, dated 07.08.2024 containing contract details along with other information consisting of Volume I, Volume II, Volume III, Volume IV, and Volume V; and other documents describing the work to be done, herewith annexed have been signed by or on behalf of the parties hereto.

AND WHEREAS the Contractor submitted the bid and became L1 bidder, whereas the Employer has issued LOA dated 00.00.2021 to the Contractor.

AND WHEREAS the Contractor has deposited a further sum of **Rs..../-** (**Rupees .....Only**) (Including GST) in the form of Bank Guarantee (Including GST) in the form of Bank Guarantee towards Performance Bank Guarantee for the due fulfillment of the contract to the satisfaction of The Employer or any other officer authorized by The Employer.

AND WHEREAS it has been agreed that the Earnest Money Deposit (EMD) will be returned to the Contractor after submission Performance Bank Guarantee of 5% of Contract sum.

AND WHEREAS the Contractor has agreed to execute upon and subject to the conditions set forth in the Conditions of Contract (Volume – II) the work shown upon the drawings and described in the said Technical specification (Volume – III) and quantities set forth in Priced Bill of quantities (Volume – IV) and comply with the Milestone noted at the end of this ARTILCES OF AGREEMENT, for a sum of **Rs...../-** (**Rupees .....Only**) (**Including GST**) vide **Letter of Award (LOA) No. ....**, or such other sum as may be arrived at under the clause of the Conditions of Contract (Volume – II, Clause – 14 (Contract Price & Payment)) relating to “Payment on Item Rate basis or by final measurement at unit prices”.

AND WHEREAS both the parties have agreed to execute this Articles of Agreement in the format different from the format as provided in the tender by covering major aspect in detail.

Now it is hereby agreed as follows:-

1. In consideration of the payment of the said sum of **Rs...../-** (**Rupees ..... Only**) (**Including GST**), or such other sum as may be arrived at under the clause of the Conditions of Contract (Volume – II) relating to payment

on Item Rate basis or by final measurement at unit prices, The Contractor will, upon and subject to the Conditions of Contract (Volume – II) execute and complete the work shown upon the Tender Drawings (Volume - V) and described in the Technical specifications (Volume – III) and to the extent of the probable quantities shown in Priced Bill of Quantities (Volume – IV), with such variations by way of alterations of, additions to, or deductions from, the said works and method of payment there for as are provided for in the Conditions of Contract (Volume – II, Clause 13 (Variations & Adjustments) & Clause 14 (Contract Price & Payment)).

2. The term “The Employer” in the Conditions of Contract (Volume – II, Clause 1.1.2.2 (under clause 1(Definitions))) shall mean the TIDEL Park Limited or any officer of The Employer in charge of the works who shall be competent to exercise all the powers and privileges reserved herein, in favour of The Employer with the previous sanction of The Employer or any other officer authorized by The Employer.

**Interim Payments:** On monthly Interim Payment Application submitted by the Contractor for the bill value not less than 3% of the contract sum or 30 days whichever is earlier. (Tender Document, Volume – II (Contract Data))

**Defects Liability Period:** One year period after 100% completion and hand over of the entire works as certified by the Engineering Consultant (EC). (Tender Document, Volume – II (Contract Data))

**Retention Money:** 5% (Five Percent Only) of contract value. 50% of retention money shall be released upon completion & hand over of all the works as certified by Engineering Consultant & balance 50% upon completion of Defects Liability Period. (Tender Document, Volume – II (Contract Data))

3. In this Agreement words and expression shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.

4. The following documents shall be deemed to form and be read and continued as part of this Agreement and the order of priority of the documents shall be as follows:

- a. The Contract Agreement (CA)
- b. Acceptance letter by.....
- c. Letter of Award (LOA)
- d. Letter of Clarifications (letter Nos.)
- e. Addendum/Corrigendum
- f. Tender & Contract documents

All of the foregoing documents, together with this Contract Agreement are referred to herein as the Contract Documents. Also incorporated into these contract documents and made part hereof, are all codes, standards, specifications and similar requirements that are referred to therein. In the event of a conflict, ambiguity or discrepancy between the contents of the Contract Documents, the order of precedence shall be according to the General Conditions of Contract.

5. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects therein, the Total Contract Price as mentioned herein. This amount is inclusive of all taxes, duties, levies, cess, insurance etc. except GST being the sum stated in the Letter of Acceptance subject to

such conditions thereto or deductions there from as may be made under the provisions of the Contract at the times and in the manner prescribed by the Contract.

#### 6. Health & Safety

The Contractor shall at all times take all reasonable precautions to maintain the health and safety of the Contractor's Personnel. In collaboration with local health authorities, the Contractor shall ensure that medical staff, first aid facilities, sick bay and ambulance service are available at all times at the Site and at any accommodation for Contractor's and Employer's Personnel, and suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of any epidemics.

The Contractor shall appoint an accident prevention officer at the Site, responsible for maintaining safety and protection against accidents. This person shall be qualified for this responsibility, and shall have the authority to issue instructions and take such necessary protective measures in order to prevent accidents. Throughout the execution of the Works, the Contractor shall provide whatever is required by this person to carry out this responsibility and exercise his authority.

The Contractor shall send to the Engineer, details of any accident as soon as practicable after its occurrence. The Contractor shall maintain such records and make reports concerning health, safety and welfare of persons, and any damage to property, as the Engineer may reasonably require.

#### 7. Manner of Execution

The Contractor shall carry out the manufacture of Plant, the production and manufacture of Materials, and all other execution of the Works:

- (a) In the manner (if any) specified in the Contract,
- (b) In a proper workman like and careful manner, in accordance with recognised good practice, and with properly equipped facilities and non-hazardous Materials, except as otherwise specified in the Contract.

#### 8. Payment of Retention Money

When the Taking-Over Certificate has been issued for the Works, and the Works have passed all specified tests (including the Tests after Completion, if any), the first half of the Retention Money shall be certified by the Engineer for payment to the Contractor. If a Taking-Over Certificate is issued for a Section, the relevant percentage of the first half of the Retention Money shall be certified and paid when the Section passes all tests.

Promptly after the latest of the expiry dates of the Defects Liability Period, the outstanding balance of the Retention Money shall be certified by the Engineer for payment to the Contractor. If a Taking-Over Certificate was issued for a Section, the relevant percentage of the second half of the Retention Money shall be certified and paid promptly after the expiry date of the Defects Liability Period for the Section.

However, if any work remains to be executed under Clause 11 [Defects Liability] or Clause 12 [Tests after Completion], the Engineer shall be entitled to withhold certification of the estimated cost of this work until it has been executed.

The relevant percentage for each Section shall be the percentage value of the Section as stated in the Tender. If the percentage value of a Section is not stated in the

Tender, no percentage of either half of the Retention Money shall be released under this Sub-Clause in respect of such Section.

Unless otherwise stated in the Contract Data, when the Taking-Over Certificate has been issued for the Works, the Works have passed all specified tests (including the Tests after Completion, if any) and the first half of the Retention Money has been certified for payment by the Engineer, the Contractor shall be entitled to substitute a guarantee, or in another form approved by the Employer and provided by an entity approved by the Employer, for the second half of the Retention Money. The Contractor shall ensure that the guarantee is in the amounts and currencies of the second half of the Retention Money and is valid and enforceable until the Contractor has executed and completed the Works and remedied any defects, as specified for the Performance Bank Guarantee in Sub-Clause 4.2. On receipt by the Employer of the required guarantee, the Engineer shall certify and the Employer shall pay the second half of the Retention Money. The release of the second half of the Retention Money against a guarantee shall then be in lieu of the release under the second paragraph of this Sub-Clause. The Employer shall return the guarantee to the Contractor within 15 days after receiving a copy of the Performance Certificate.

If the Performance Bank Guarantee required under Sub-Clause 4.2 is in the form of a demand guarantee, and the amount guaranteed under it when the Taking-Over Certificate is issued is more than half of the Retention Money, then the Retention Money guarantee will not be required. If the amount guaranteed under the Performance Bank Guarantee when the Taking-Over Certificate is issued is less than half of the Retention Money, the Retention Money guarantee will only be required for the difference between half of the Retention Money and the amount guaranteed under the Performance Bank Guarantee”.

#### 9. Application for Interim Payment Certificates

The Contractor shall submit a Statement in 3 copies to the Engineer after the end of the period of payment stated in the Contract for certification (if not stated, after the end of each month), in a form approved by the Engineer, showing in detail the amounts to which the Contractor considers himself to be entitled, together with supporting documents which shall include the relevant report on progress in accordance with Sub-Clause 4.21 [Progress Reports].

The Statement shall include the following items, as applicable, which shall be expressed in the various currencies in which the Contract Price is payable, in the sequence listed:

- (j) the estimated contract value of the Works executed and the Contractor's Documents produced up to the end of the month
  - (k) any amounts to be added and deducted for changes in legislation and changes in cost, in accordance with Sub-Clause 13.7 [Adjustments for Changes in Legislation and Cost]
  - (l) any amount to be deducted for retention, calculated by applying the percentage of retention stated in the Contract Data to the total of the above amounts, until the amount so retained by the Employer reaches the limit of Retention Money (if any) stated in the Contract Data;
  - (m) any amounts to be added and deducted for the Mobilisation Advance and repayments in accordance with Sub-Clause 14.2 [Mobilisation Advance];
- any other additions or deductions which may have become due under the Contract or otherwise, including those under Clause 20 [Claims, Disputes and Arbitration]; and the deduction of amounts certified in all previous Payment Certificates.

#### 10. Payment terms

Progressive payment shall be on monthly Interim Payment Application.

Engineering Consultant shall certify the Interim Payment Application within **15 days** from the date of submission of bills in complete shape by the **Contractor** with all required enclosures, attachments etc.

The **Employer** shall make payment within **15 days** from the date of certification of bills by the Engineering Consultant.

Payment at part rates for the supply of equipments / materials for MEP works, erection & testing against agreement rates may be made in the running account bills at the percentage quoted below, The part rate to be allowed for an item shall be as assessed and decided by the Engineering Consultant for the extent of work done and whether the item could be completed in all respects as per specification within the balance amount available. Full rate shall be released in subsequent bills on completion of the item of work in all respects as per specifications and the amount paid at part rate shall be duly deducted.

**PAYMENT TERMS for MEP items in R A Bills:**

60% of accepted rate of item	Against delivery of all materials of item at site.
25% of accepted rate of item	On erection
10% of accepted rate of item	On testing and successful commissioning after erection and handing over to the Owner.
5% of accepted rate of item	On completion of all necessary, documentation, test certificates etc., as per contract.

Engineering Consultant shall certify the running account bills within 15 days from the date of submission of bills in complete shape by the **Contractor** with all required enclosures, attachments etc.

The **Owner** shall make payment within 15 days from the date of certification of bills by the Engineering Consultant and validation by owners

**Deductions in Interim Payments:**

- a. 5% of the gross value of bill will be deducted towards retention money from each running bill except on initial mobilization advance payment until the retention money amounts to 5 % of the contract sum of work
- b. Secured advance, if any, paid on specified materials shall be recovered full in the next running bill.
- c. Mobilization advance shall be recovered as per contract data.
- d. Any other applicable deductions as per Conditions of Contract.
- e. Other applicable deductions as required by statutory regulations.

The Contractor shall submit his final bill for the works within three months of completion of works. The bill shall be based only on works as measured and at accepted agreement rates including rates for any additional or extra work which might have been sanctioned by the **Owner**. All deductions due under the contract shall be made. Final bill shall be submitted by the **Contractor** within three months from the date of completion of works



#### 11. Application for Final Payment Certificate

The **Contractor** shall submit his final Interim Payment Application for the works within three months of completion of works. The Interim Payment Application shall be based only on works as measured and at accepted agreement rates including rates for any additional or extra work which might have been sanctioned by the **Employer**. All deductions due under the contract shall be made.

The Contractor shall submit the following guarantee certificates and documents before submission of Application for Final Payment Certificate:

- a) As - built drawings.
- b) Material Test Reports as called for.
- c) Measurement Reports
- d) Any other Material and work inspection reports called for by Engineering Consultant / Employer or its Representative as found necessary.

All Bidders are expected to note the aforesaid provisions before Tendering for the work and cover their rates to fulfill obligations as called for.

#### **Final Payment:**

Final Payment Application shall be submitted by the **Contractor** within three months from the date of completion of works.

The Engineer shall certify the Final Payment Application within two months of submission in complete shape with all required documents subject to finalisation of extra claims, if any.

The Employer shall make payment for the Final Payment Application within one month from the date of certification of Final Interim Payment Application by the Engineer.

#### **Deduction in Final Interim Payment Application:**

- d. Applicable deductions as per Conditions of Contract.
- e. Any money recoverable from the **Contractor**.
- f. All interim payments effected.

If the Engineer disagrees with or cannot verify any part of the draft final statement, the Contractor shall submit such further information as the Engineer may reasonably require within 15 days from receipt of the said draft and shall make such changes in the draft as may be agreed between them. The Contractor shall then prepare and submit to the Engineer the final statement as agreed. This agreed statement is referred to in these Conditions as the "Final Statement".

However if, following discussions between the Engineer and the Contractor and any changes to the draft final statement which are agreed, it becomes evident that a dispute exists, the Engineer shall deliver to the Employer (with a copy to the Contractor) an Interim Payment Certificate for the agreed parts of the draft final statement. Thereafter, if the dispute is finally resolved, the Contractor shall then prepare and submit to the Employer (with a copy to the Engineer) a Final Statement.

#### **Issue of Final Payment Certificate**

Within 30 days after receiving the Final Statement and discharge in accordance with Sub-Clause 14.10 [Application for Final Payment Certificate] and Sub-Clause 14.11 [Discharge], the Engineer shall deliver, to the Employer and to the Contractor, the Final Payment Certificate which shall state:



- (a) the amount which he fairly determines is finally due, and
- (b) after giving credit to the Employer for all amounts previously paid by the Employer and for all sums to which the Employer is entitled, the balance (if any) due from the Employer to the Contractor or from the Contractor to the Employer, as the case maybe”.

If the Contractor has not applied for a Final Payment Certificate in accordance with Sub-Clause 14.10 [Application for Final Payment Certificate] and Sub-Clause 14.11 [Discharge], the Engineer shall request the Contractor to do so. If the Contractor fails to submit an application within a period of 30 days, the Engineer shall issue the Final Payment Certificate for such amount as he fairly determines to be due.

## 12. Labour Laws

The Contractor shall comply with all the relevant labour Laws applicable to the Contractor's Personnel, including Laws relating to their employment, health, safety, welfare, immigration and emigration, and shall allow them all their legal rights.

The Contractor shall require his employees to obey all applicable Laws, including those concerning safety at work.

**Taxes:** As per Volume – II, Sub-Clause 14.1 (The Contract Price); The Contractor shall pay all taxes, duties and fees required to be paid by him except GST which will be paid separately under the Contract, and the Contract Price shall not be adjusted for any of these costs, except as stated in Volume – II, Sub-Clause 13.7 (Adjustments for Changes in Legislation)

The arbitration for fulfilling the duties shall be as in the Conditions of Contract (Volume – II, Clause 20 (Dispute, Dispute Resolution Board & Arbitration))

Time shall be considered as the essence of the agreement and contractor hereby agrees to commence the work as soon as this agreement is accepted by The Employer or any other officer authorized by The Employer and the site premises is handed over to them as provided for in the Conditions of Contract (Volume – II, Clause 2.1 (Right of access to the site)) and agrees to complete the work within 18 Months from the date of such handing over the site premises and to show progress as defined in the tabular statement “Milestones”, subject nevertheless to the provisions for extension of time contained in the Conditions of Contract (Volume – II, Clause 8.4 (Extension of time for completion))

## 13. Access Route

The Contractor shall be deemed to have been satisfied as to the suitability and availability of access routes to the Site at Base Date. The Contractor shall use reasonable efforts to prevent any road or bridge from being damaged by the Contractor's traffic or by the Contractor's Personnel. These efforts shall include the proper use of appropriate vehicles and routes.

Except as otherwise stated in these Conditions:

- (a) the Contractor shall (as between the Parties) be responsible for any maintenance which may be required for his use of access routes;
- (b) the Contractor shall provide all necessary signs or directions along access routes, and

shall obtain any permission which may be required from the relevant authorities for his use of routes, signs and directions;

(c) the Employer shall not be responsible for any claims which may arise from the use or otherwise of any access route,

(d) the Employer (Owner) does not guarantee the suitability or availability of particular access routes, and

(e) Costs due to non-suitability or non-availability, for the use required by the Contractor, for access routes shall be borne by the Contractor.

#### 14. NOTICES:

All notices called for by the terms of the Contract Documents shall be in writing in the English language and shall be delivered by hand or by registered post acknowledgement due, to the parties' addresses given below. All notices shall be deemed to be duly made when received by the party to whom it is addressed at the following addresses or such other addresses as such party may subsequently notify to the other:

#### 15. INTEGRATION:

The Employer and the Contractor agree that this Contract Agreement together with the other relevant Contract documents, expresses all of the agreements, understandings, promises and covenants of the parties and that it integrates, combines, and supersedes all prior and contemporaneous negotiations, understandings, agreements, whether written or oral and that no modification or alteration of the contract documents except specifically mentioned in this agreement shall be valid or binding on either party, unless expressed in writing and executed with the same formality as this Contract Agreement, except as may otherwise be specifically provided in the Contract Documents.

and denominated in the currency of the Contract or in a freely convertible currency acceptable to the Employer.

The Contractor shall submit the Performance Bank Guarantee to the Employer within 15 days after date of issue of Letter of Award, and shall send a copy to the Engineer. The Performance Bank Guarantee shall be issued by a reputed Public sector bank or financial institution selected by the Contractor, and shall be in the form annexed to the Particular Conditions, as stipulated by the Employer, or in another form approved by the Employer (Owner).

The Contractor shall ensure that the Performance Bank Guarantee is valid and enforceable until the Contractor has executed and completed the Works and remedied any defects. If the terms of the Performance Bank Guarantee specify its expiry date, and the Contractor has not become entitled to receive the Performance Certificate by the date 28 days prior to the expiry date, the Contractor shall extend the validity of the Performance Bank Guarantee until the Works have been completed and any defects have been remedied.

The Employer shall return the Performance Bank Guarantee to the Contractor within 21 days after issuing a copy of the Performance Certificate.

#### 16. Dispute, Dispute Resolution Board & Arbitration

##### **Disputes:**

If the Contractor be dissatisfied with the decision of the Employer/Engineer on any matter, question or dispute of any kind (except any of the expected matters) or as to the withholding by the Employer/Engineer of any certificate to which the Contractor may claim to be entitled, then and in any such case either party (the Employer or the Contractor) may seek settlement through any of the ALTERNATE DISPUTE RESOLUTION METHODS and shall NOT resort to adversarial methods.

As such any issues or difference of opinions or issues shall be resolved through Conciliation / Mediation / Negotiation and in the event of any persisting disputes arbitration proceedings may be initiated in accordance with Indian Arbitration and Conciliation Act 1996 in force. The venue of Arbitration shall be in Madurai. The Governing Law of this Agreement and of the relations of the parties arising from it and of any arbitration pursuant to it shall be the laws of the Republic of India.

Provided, always that the Employer shall not withhold the payment of an Interim Certificate nor the Contractor except with the consent in writing of the Employer/Engineer with respect to any way delay in execution of the works by reason of any such matters, question or dispute being referred to Arbitration but shall continue to proceed with the work with all due diligence and shall, until completion of Arbitration proceedings, relieve the Contractor of his obligations to adhere strictly to the Employer/Engineer instructions with regard to the actual carrying out of the works.

Further disagreement, if any, after the Arbitration Award may be resolved through Court of Law. All such disputes arising out of matters in connection with this agreement shall be deemed to have arisen at Madurai and only courts in Madurai shall have the jurisdiction to determine the same.

The work shall however be progressed as per time scheduled, independent of such exigencies unless the Employer desires otherwise. However, before resorting to Arbitration the Contractor/ Employer may resort to Conciliation / Mediation / Negotiation in order to resolve any the disputes as a prerequisite.

#### **DISPUTE RESOLUTION BOARD:**

As such a DISPUTE RESOLUTION BOARD (DRB) shall be constituted within one month from the kick start date of the Contract execution. Any kind of difference of opinion or issues in between parties arising out of this Contract shall be resolved amicably in good spirit and good faith by referring the matter to the Disputes Resolution Board; as such any difference of opinion or issues between the Owner and Contractor shall be referred to the DRB for amicable resolution.

The DRB shall have four suitably qualified persons (“the members”), each of whom shall be fluent in English and shall be a professionally experienced in the type of construction involved in the Works.

- TWO Representatives of Client
- ONE Representative of PMC
- ONE Representative of Contractor

Each Party shall nominate their representatives to DRB and the Chairman of DRB shall be elected by DRB members. If at any time either the Owner or Contractor has any issue in hand and both of them so agree, they may jointly refer any such matter to the DRB for resolution of the same and neither Party shall consult the DRB on any matter without concurrence of the other Party. The nomination of any member to DRB may be terminated by the party who nominated him.

The role of DRB shall expire when the contract is discharged effectively. If a dispute (of any kind whatsoever) arises between the Parties in connection with, or arising out of, the

Contract or the execution of the Works, including any dispute as to any certificate, determination, instruction, opinion or valuation of the Architect, either Party may (in concurrence with the other Party) refer the issue in writing to the DRB for its amicable resolution, with copies to the other Party and Architect. The DRB shall be deemed to have received such reference on the date when it is received by the Chairman of the DRB.

Parties shall promptly make available to the DRB all such additional information, further access to the Site, and appropriate facilities, as the DRB may require in order to arrive at an amicable resolution on any such dispute referred. The DRB shall be deemed to be NOT acting as Arbitrator(s) but DRB shall make every endeavor in order to amicably resolve any issues referred to it based on the process and principles of Conciliation / Mediation / Negotiation and decisions of DRB shall be on consensus basis.

Within 15 days upon receiving such reference of any issue, or within such other period as may be proposed by the DRB and further approved by Owner and Contractor, the DRB shall resolve the issue on consensual basis and give its decision, which shall be reasoned and such decision shall be binding on both Owner and Contractor, who shall promptly give effect to it. Unless otherwise, the Contract has been already abandoned / repudiated / determined / terminated, the Contractor shall continue to proceed with the Works in accordance with the Contract in spite of any issue referred to DRB. As and when required DRB may take support of an Advocate.

If the DRB could not resolve any issue on consensus basis, then either Party (Owner or Contractor) may, within 30 days upon receipt of DRB's decision, shall serve a "Notice of Dissatisfaction" to the other Party indicating its dissatisfaction and his intention to commence Arbitration process. If the DRB fails to resolve any referred issue within the period of 45 days (or as otherwise approved) after receiving such reference, then either Party may, within 30 days after this period has expired, give a Notice of Dissatisfaction to the other Party.

In either event, this Notice of Dissatisfaction shall set out the matter in dispute and the reason(s) for dissatisfaction and neither Party shall be entitled to commence Arbitration of any dispute unless a Notice of Dissatisfaction has been served on the other party. If the DRB has given its decision as to a matter in dispute between the Owner and Contractor, and If no Notice of Dissatisfaction has been given by either Party within 30 days after it received the DRB's decision, then the decision of DRB shall become final and binding upon both Parties. If the decision of the DRB requires any payment by one Party to the other Party, the DRB may require the payee to provide an appropriate security in respect of such payment.

In spite of a Notice of Dissatisfaction has been given, both Parties shall attempt to settle the dispute amicably before the commencement of any Arbitration. However, unless otherwise both Parties agree for amicable settlement within 30 days after notice of dissatisfaction has been served, the Party giving such a Notice of Dissatisfaction may move to commence Arbitration after the 30th day from the day on which a Notice of Dissatisfaction was given.

### **ARBITRATION:**

In case of dispute or difference arising between the Employer and contractor relating to any matter arising out of or connected with this contract, such dispute or difference shall be settled in accordance with the Arbitration and Conciliation Act, 1996 as amended upto date.

The arbitral tribunal shall consist of 3 arbitrators one each to be appointed by the Employer and the contractor. The third arbitrator shall be chosen by the two arbitrators so appointed by the parties, shall act as presiding arbitrator.

In case of failure of the two arbitrators appointed by the parties to reach upon a consensus within a period of 30 days from the appointment, this shall be done in accordance with the Arbitration and Conciliation Act, 1996 as amended upto date.

If one of the parties fails to appoint its arbitrator in pursuance of clause above within 30 days after receipt of the notice of the appointment of its arbitrator by the other party, then the appointment of the Arbitrator shall be made as per the Arbitration and Conciliation Act, 1996 as amended upto date.

Arbitration proceedings shall be held at Madurai (India) and the languages of the arbitration proceedings and that of all documents and communications between the parties shall be English.

The decision of the majority of arbitrators shall be final and binding upon both parties. The cost and expense of Arbitration proceedings shall be reasonable and will be paid as determined by the arbitral tribunal. However, the expenses incurred by each party in connection with the preparation, presentation, etc. of its proceedings as also the fees and expenses paid to the arbitrator appointed by such party or on its behalf shall be borne by each party itself.

Performance under the contract shall continue during the arbitration proceedings and payments due to the Contractor by the Employer shall not be withheld, unless they are the subject matter of the arbitration proceedings.

Arbitration procedures as per INDIAN ARBITRATION AND CONCILIATION ACT 1996 as amended upto date shall be followed.

Fees and types of reimbursable expenses to be paid to the Arbitrator is Rs. 5,000/- per day plus boarding, lodging, travelling and other charges as per actuals subject to applicable Govt. norms.

#### 17. GOVERNING LAW

This Contract is enforceable and construed under the laws of the Republic of India.

#### 18. LANGUAGE

This contract Agreement and the other Contract Documents are made in English language.

#### 19. JURISDICTION OF COURT

This is in Arbitration Agreement i.e. Arbitration Agreement includes this.

The Contractor, ....., have hereunto set their hand and **M/s TIDEL Park Limited, Chennai – 600 113** on behalf of The Employer have hereunto set their hand, the day and year first above written.

**For and on behalf of the Employer**

**For and on behalf of the Contractor**

**TIDEL PARK LTD**

**No.4, RAJIV GANDHI SALAI, TARAMANI,  
CHENNAI – 600 113**

**SIGNED, SEALED AND DELIVERED**

By the said

\_\_\_\_\_

\_\_\_\_\_

On behalf of the Employer in the presence of;  
presence of:

Witness\_\_\_\_\_

Name\_\_\_\_\_

Address\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Witness Sign:

By the said

\_\_\_\_\_

\_\_\_\_\_

on behalf of the Contractor in the

Witness\_\_\_\_\_

Name\_\_\_\_\_

Address\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Witness Sign:

**APPENDIX - D****BANK GUARANTEE FOR MOBILISATION ADVANCE****TIDEL PARK LTD****No.4, RAJIV GANDHI SALAI,****TARAMANI,****CHENNAI 600 113**

1. This deed of Guarantee made this ----- day of ----- 2023 between -----

(Name of the Bank and address) (hereinafter called the “Bank”) of the one part, and Tidel Park Ltd ,No 4, Rajiv Gandhi salai, Taramani, Chennai 600 113 (hereinafter called the “The Employer”) of the other part.

2. Whereas TIDEL Park Limited has awarded the\_\_ (hereinafter called the Contract) to \_\_ **having its Head office at** \_\_\_\_\_ (herein after called the Contractor).

3. The Employer has agreed to pay the Contractor a Mobilisation Advance of 10% of the Contract value in three instalments totalling the sum of Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ Only) payable by the Employer in three instalments as a Mobilisation Advance as per the General Conditions of Contract (Mobilisation Advance) of which the above mentioned amount is the full amount.

4. Now we the Undersigned being fully authorized to sign and to incur obligations for and on behalf of and in the name of ----- hereby declare that the said Bank will guarantee the Employer the full amount of \_\_\_\_\_ as stated above.

After the Employer has made a Mobilisation Mobilisation Advance to the Contractor, the Bank is engaged to pay the Employer, any amount up to and inclusive of the aforementioned full amount upon written order from the Employer to indemnify the Employer for any liability of damage resulting from non-recovery from the Contractor of the so paid Mobilisation Advance Amount by the Employer, the Bank will deliver the money required by the Employer immediately on demand without delay and demur and without reference to the Contractor and without the necessity of a previous notice or of judicial or administrative procedures and without it being necessary to prove to the Bank the liability or damages resulting from any defects or shortcomings or debts of the Contractor. The Bank shall pay to the Employer any money so demanded notwithstanding any dispute / disputes raised by the Contractor in any suit or proceedings pending before any Court, Tribunal or Arbitrator/s relating thereto and the liability under this guarantee shall be absolute and unequivocal.

5.This Guarantee is valid until --.

At any time during the period in which this Guarantee is still valid, if the Employer agrees to grant a time extension to the Contractor, it is understood that the Bank will extend this Guarantee under the same conditions for the required time on demand by the Employer and at the cost of the Contractor.

6.The Guarantee hereinbefore contained shall not be affected by any change in the Constitution of the Bank or of the Contractor.

7.The neglect or forbearance of the Employer in enforcement of payment of any moneys, the payment whereof is intended to be hereby secured or the giving of time by the Employer for the payment hereof shall in no way relieve the bank of their liability under this deed.

8.The expression “The Employer”, “The Bank”, and “The Contractor” hereinbefore used shall include their respective successors and assigns.

9.Notwithstanding anything contained herein:

- a) Our liability under this Bank Guarantee shall not exceed Rs----- Rupees (.....),and
- b) This Bank Guarantee shall be valid upto ----- , and
- c) We are liable to pay the Guarantee Amount or part thereof under this Bank Guarantee only & only if you serve upon us a written claim or demand on or before----- at----- (Name and Address of the Bank).

In Witness whereof I / We of the Bank have signed and sealed this Guarantee on the ----- Da  
y -----bei  
ng herewith duly authorized.

For and on behalf of the Bank-----

Signed, sealed and delivered for and on behalf of the Bank by the above named in the presence of:

#### SIGNATURE AND SEAL OF THE GUARANTOR

NAME OF BANK -----

ADDRESS -----

DATE -----

Note:

The Stamp papers of appropriate value shall be purchased in the name of the Bank, who issues the ‘**Bank Guarantee**’.



**APPENDIX - E****LETTER OF AWARD**

*[Insert letterhead paper of the Employer]*

*[Insert  
date]*

To: *[Insert name and address of the Contractor]*

1. This is to notify you that your Bid dated *[insert date]* for execution of the *[insert name of the Contract and identification number, as given in the Contract Data]* for the Accepted Contract Amount of the equivalent of *[insert amount in words and figures]* *[insert name of currency]*, as corrected and modified in accordance with the Instructions to Bidders, is hereby accepted by our Agency.
2. You are requested to furnish the Performance Bank Guarantee within 15 days in accordance with the Conditions of Contract, using for that purpose one of the Performance Bank Guarantee Forms included in the Bidding Documents.
3. The completion period is 18 Months from commencement date.
4. This letter of acceptance shall be deemed as an agreement till the formal agreement is executed.
5. The LETTER OF AWARD is sent in duplicate, you may please return on copy duly signed immediately.

Authorized Signature: \_\_\_\_\_

Name and Title of Signatory: \_\_\_\_\_

Name of Agency: \_\_\_\_\_

Attachment: Contract Agreement

**FORMAT - 'A'**

**[SUBMITTAL LIST: TENDER SHALL BE ACCOMPANIED BY FOLLOWING INFORMATION]**

**TENDERERS ORGANISATION CHART, PLANT AND EQUIPMENT, MOBILISATION SCHEDULE, DRAWINGS AND PLANS FOR TEMPORARY FACILITIES ETC.**

**The Tenderer shall submit the documents with full details on the following subjects along with the Tender.**

The evaluation of Tender will take into consideration the detailed information provided by the Tenderer.

At Head Office      At Work site

(a) Organisation chart (Pyramid type)

(b) Curriculum Vitae of Senior Staff and supervisory staff

(c) List of Plant and equipment

(d) Mobilisation Schedule

Staff - (Technical and Administrative) Labour

12. Plant and equipment (description, year of manufacture, capacity, present condition, owned or hired, availability for the work etc.)

(a) Material Procurement Plan

(b) Drawings and Plans for Temporary Facilities

☐ Workshops / Fabrication yards

☐ Warehouse

☐ Electrical Substation and distribution network for lighting and power

☐ Disposal of wastes - solid and liquid (conforming to environmental

☐ Laws)

☐ Water Plan

☐ Power Plan

**Planning and Execution Plan to suit the schedule of the CLIENT (along with bar chart / pertchart)**

**Quality Control Plan (at procurement stage and execution stage)**

**Plan for Coordination with all other agencies, Sub-Contractors, Specialist M&E Contractors, Owner's representatives, including review / reporting systems / periodic and regular internal meeting schedules and meeting schedules with Owner's representatives and sub-Contractors.**

**ALL TENDER DRAWINGS, DULY BEARING THE SEAL AND SIGNATURE OF THE TENDERER SHALL BE RETURNED WITH THE TENDER.**

**FORMAT - 'B'****SUBMITTAL LIST****METHODOLOGY AND QUALITY CONTROL**

The Tenderer shall submit methodology and Quality Control for the following aspects of work along with the Tender.

The evaluation of Tender will take into consideration the detailed information provided by the Tenderer.

Procurement Plan

Execution / Erection Plan

Testing and Commissioning Plan

Maintenance Plan

System / Process to be adopted by Contractor in selecting bidders, Sub  
–Contractors

**Signature of the Tenderer**

**FORMAT - 'C'****Schedule of Construction Plant and Equipment**

The Tenderer must enter below particulars of plant he proposes to use on the works.

Description	Year of manufacture	Capacity	Period when available from start of the work	Owned / hired

---

Tenderer hereby confirms that the quantity and type of Equipment they will employ for construction will not be less than those listed above and agree to bring more equipment if so, warranted in the opinion of the Engineering Consultant.

**Signature of Tenderer.**

**Seal:**

**FORMAT - ‘D’**

**Schedule of TENDERER’S Site Management Staff**

Tenderers must enter below the name, qualifications and experience of their key full time site personnel in the proposed site organisation.

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<b>Name</b>	<b>Qualification</b>	<b>Position</b>	<b>Experience</b>	<b>Period when Available</b>
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**Signature of Tenderer**